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Proceedings of the First National Symposium on Pesticide Labeling

Part I: Presentations

June 3-4, 1974

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OF THE FIRST NATIONAL SYMPOSIUM
ON PESTICIDE LABELING

JUNE 3-4, 1974

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PART-I

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FOREWORD

It was our intent in holding the first National Symposium on Pesticide Labeling to bring together as many parties as possible concerned with pesticide labeling and to stimulate their thinking on this subject. We recognized before the meeting that we would not evolve from the meeting all the answers to develop a new framework for labels and the labeling process. We did feel, however, that such a gathering would provide some constructive suggestions upon which we could begin building basic guidelines for future labels and labeling.

We believe the Symposium was highly successful in accomplishing this objective. The manuscript herein contains a record of the prepared statements and much of the discussion of the two-day session. Within this record are a number of worthwhile recommendations which are now under consideration for adoption as policy or guidelines. The new Standards and Labeling Section of the Registration Division is hard at work evaluating these. Some of them are controversial and worthy of further comment and discussion. The Standards and Labeling Section will welcome any additional comments that your review of this document might stimulate.

This document is divided into two parts: (1) the prepared presentations offered at the sessions (taken from the Recorder's transcript and not from the speakers' notes); (2) a portion of the questions and answers raised at the meeting. A number of additional questions were asked or submitted at the meeting and answers will be somewhat dependent upon publication of forthcoming Regulations and Registration Guidelines. Therefore, the answers have been delayed. In order to reduce any more delay in submitting this document we are sending it without these answers. An addendum to this document, or Part III, will be published in early 1975 to cover the remaining questions.

It is our hope that those who attended this meeting benefited as we did. We shall look forward to another Symposium when we have had a chance to more completely digest the results of this one.

John B. Ritch, Jr.

September 27, 1974

John B. Ritch, Jr.

INTRODUCTORY REMARKS

JOHN B. RITCH, JR.
Director, Registration Division
Office of Pesticide Programs
Environmental Protection Agency

Good morning. I am John Ritch, Director of the Registration Division of the Office of Pesticide Programs, under the Office of Water and Hazardous Materials in the Environmental Protection Agency. Now that is a label.

On behalf of the entire Office of Pesticide Programs, and more particularly on behalf of the Registration Division, which is sponsoring this Symposium, I formally welcome you to the First National Symposium on Pesticide Labeling.

We appreciate very much your being here. It is clear evidence to us of your desire to work with the Registration Division to improve pesticide labeling when we see the tremendous response to such a meeting. As evidence of our own intense interest in this subject, we have established a Labeling Section in the Registration Division under Dr. William Wells, who will speak to you this afternoon. As further evidence of our interest, it is of course the Registration Division which is sponsoring this Symposium, and which has been working on it for some time. A great deal of thought has gone into the development of these meetings. Yet, in spite of the great amount of time and effort expended in developing this Symposium, I want to inform you right now that it is not going to provide us with all the answers necessary in order to step out with a new framework for labels.

On the other hand, I hope that it is a beginning--a stimulant to both your and our thinking--so that we may lay out a framework to improve the labeling process. By the time you leave here tomorrow afternoon, I hope you will feel you have been warned, directed, certified, classified, packaged, numbered, motivated, crushed, incinerated, and fully labeled. We are going to examine the problem from the points of view of all involved groups--the Federal Government, the States, the users, the environmentalists, and the manufacturers. If things go the way I think they will, we may have a fight or two. Some of our issues, I think, are so tough that the old Hatfield-McCoy feud will seem like a bunch of teddy bears going to a picnic.

This is why we are here. We hope that these issues will be freely explored. We also hope that when you leave you will continue your interest and give us your thoughts and ideas for better labeling. I think this get-together is the initial move in the right direction. So let's keep it moving. The follow-up actions we can pursue will depend upon this Symposium.

HENRY J. KORP
Deputy Assistant Administrator
for Pesticide Programs
Environmental Protection Agency

I am very pleased to see so many of you here in response to this call for a labeling symposium. This initial effort of ours is most significant in terms of timing, since we are presently in the midst of developing the regulations that will have more than a passing effect on the pesticide label for years to come.

It is because of this fact that I would like to thank all those who are participating in the Symposium, and particularly impress upon you as the audience the need to make these two days meaningful ones--days that will produce results that are considered constructive, as opposed to destructive.

Our purpose, after all, is to bring about the improvement of the label, not its demise. We would appreciate ideas that will make the label easier to read and to be understandable to all. Some might think that this means an operation by which we would process labels on a single day service, or something like that. This, of course, is not the case. This Symposium is just one step further down the road to making the regulatory process more efficient, more responsive, and more understandable. Any actions we take, however, will always be framed with the protection of the environment in mind.

I didn't intend to make a speech here today, and I won't. My purpose is to introduce to you a gentleman that you will all certainly get to know very well in the near future. Mr. James L. Agee has recently been selected Acting Assistant Administrator for Water and Hazardous Materials, the new title that John Ritch read to you.

Pesticides, and the Office of Pesticide Programs, come under his jurisdiction. Jim Agee was, until accepting this new assignment, the Regional Administrator for the Environmental Protection Agency's Region 10, which has Seattle, Washington as its headquarters. Much of Jim's background is in water, having served with the Department of the Interior's Federal Water Quality Administration. Jim is no stranger to pesticide problems, however, since you will remember that it was in his Region that we had a few DDT decisions. I am sure that Jim doesn't plan to make a speech either, but I would like to prevail upon him to say a few words.

JAMES L. AGEE
Acting Assistant Administrator for Water and Hazardous Materials

Thank you very much, Henry. I do want to welcome you all here. I know very well the importance of today's session.

This is an important session for us and we are really here to solicit your advice. You know, EPA has been faced in the last couple of years with promulgating one regulation after another. People keep asking us "How do you do all that?" Well, the answer is simple. We have a standard outline for regulations that comes out in numbers of Deuteronomy. It is called the Ten Commandments. We go down those and write everything we can think of that ought to go into the regulations. We are very concerned, and I know that Russ Train is very, very concerned about us doing things right.

The job we have to do is mammoth in all EPA areas. We are naturally interested in getting our regulations adopted and in their being as practical and as reasonable as possible. Yet at the same time, we have to be very serious about their content. We want our regulations to be enforceable; they have to be enforceable. We want them, also, to be just and fair. We have to work with these regulations.

Finally, I would like to thank all of you for coming. We are here to listen and to get your ideas about labeling, so that we can do the best possible job. You have opened up the dialogue today. As a matter of fact, I think that the pesticide users, the State people, the environmentalists--all of these-are the people we are serious about working with as we develop the labeling program, and as we carry it out in the future.

Thank you again for coming.

JAMES J. BONIN
Presidential Fellow
Office of Pesticide Programs
Environmental Protection Agency

Good morning. I certainly appreciate the kind words of John Ritch concerning my role in putting together this particular Symposium. It has been a pleasure working with John and the other people in the Office of Pesticide Programs over the past months.

Our "ground rules" are few in number. It is imperative that we move along as rapidly as possible, since, as you can see from the program, we have quite a few speakers to listen to over the next two days. The real nuts and bolts of the sessions, however, will come during the question and answer periods. Keeping that in mind, we should all strive to move the formal part of the program along as rapidly as possible.

The major ground rule that must be followed is that we cannot take the time to answer a multiplicity of questions during the actual, formal presentations. For this reason, I suggest you jot down any questions you have now, plus all those that you think of during the various talks, and put those questions on the index cards you will find inside of each registration packet. In this way you will not have to interrupt the individual speakers, but will still be able to get an input immediately. If we follow this procedure, I am sure that we will have a more productive Symposium.

As I said, there is no need for you to hold on to your questions all day. Mr. Jerry Moore, of the Registration Division, will circulate among you and pick up the cards. In doing so, we can get a headstart on sorting the questions out by category.

One other thing that I would like to point out is that in each registration packet there is a yellow card that admits one to the luncheon tomorrow. As you are aware, we are fortunate to have the Honorable Russell Train as a speaker at that function. Anyone who has registered, but will not attend the luncheon, should turn their yellow card in at the registration desk. The purpose of doing this is to allow the contractor to estimate the total attendance for the luncheon. This makes it easier for the hotel to set up the tables.

Without further delay or remarks, I would like to introduce our first speaker of the day, a gentleman who has had a long history in regulations, Mr. Douglas D. Campt. Doug is a graduate of East Carolina University. He first began his federal career as an inspector at JFK International Airport in New York, progressed through the ranks and finally became a member of the Pesticide Regulations Division of the

Department of Agriculture. He has held several positions in the latter Division, up to and including Acting Deputy Director. When the Environmental Protection Agency was formed in 1970, Doug came over with many other people from the old PRD. Doug has held several different positions in the Registration Division, the most current being the Chief Registration Officer. His remarks this morning will deal with the regulatory requirements for labels from the Federal view.....Doug Campt.

PRESENTATIONS

PESTICIDE LABELING - A REGULATORY PERSPECTIVE

By Douglas D. Campt
Pesticide Registration Officer
ENVIRONMENTAL PROTECTION AGENCY, Washington, DC.

Archimedes the great Greek geometrician is quoted as having said, "Give me a lever long enough and a prop strong enough and I will move the world." I recall that this quotation appeared in my seventh grade geometry text book and at the time I remember turning over in my own mind the question of whether Archimedes had in fact concluded that the world needed to be moved. We could paraphrase this quotation and apply it to the pesticide labeling problem. We might say, "Give me a label long enough with warnings, cautions and statements of limitations strong enough and I will assure you that any use of pesticides will be illegal." I would, of course, raise the same type of question there as occurred to me in connection with the Archimedes quotation. I can in this case positively tell you that this is not the intent of pesticide labeling. The purpose of pesticide labeling is quite simply to aid in allowing the use of a pesticide product safely and effectively without unreasonable adverse effect on the environment.

As a matter of fact, there is a considerable body of opinion that holds that the pesticide label is becoming too crowded, too complex, and too detailed. The proponents of this theory would simplify labeling and hold statements to the bare minimum with the intent of strictly enforcing that which would be there. This idea is based on the theory that we have reached a point of diminishing returns on additional "words" on the label. We will need to give serious consideration to this thinking as we plan to address the labeling problem in the future.

It is my purpose this morning to discuss with you, Labeling Requirements from a Regulatory Perspective. In other words, what does the law require with respect to labeling for pesticide products? Perhaps it might be useful first to review the statutory tools with which we work and to provide some background on how we got where we are today. As we are aware, we are in the process of implementing the amendments to the Federal Insecticide, Fungicide, and Rodenticide Act of 1947 which were brought about by the passage of the Federal Environemntal Pesticide Control Act of 1972. The 1947 law was considered to be basically a labeling statute. The regulatory scheme was geared largely to assuring that pesticides were properly labeled in the pre-marketing clearance program (Registration) and enforcement of that labeling through a market surveillance program (Enforcement). The 1970 amendments added a number of important tools to be used in the regulation of pesticides, including classification, use of certified applicators, registration of establishments, and others. However, the statutory requirements relative to labeling have remained essentially the same. There have been a few new wrinkles and I will highlight these as we proceed. Since we are in a transitory period in moving into the new requirements, we will be making reference both to the new and to the existing requirements.

Now what does the law require with respect to labeling? First, the law makes a distinction between the terms, "Label" and "Labeling." Since these terms are sometimes erroneously used interchangeably, let us establish the differences between them and hereafter use them in their proper context:

1. LABEL - The term 'label' means the written, printed, or graphic matter on, or attached to, the pesticide or device of any of its containers or wrappers.

2. LABELING - The term 'labeling' means all labels and all other written, printed, or graphic matter:

   a. Accompanying the pesticide or device at any time; or

   b. To which reference is made on the label or in literature accompanying the pesticide or device, except to current official publications of the Environmental Protection Agency, the United States Departments of Agriculture and Interior, the Department of Health, Education, and Welfare, State experiment stations, State agricultural colleges, and other similar Federal or State institutions or agencies authorized by law to conduct research in the field of pesticides.

It is clear that the basic distinction concerns where the written, printed or graphic matter occurs. In the case of the "label" it is "on or attached to the pesticide or device." In the case of "labeling" it may accompany the pesticide or device or be referred to on the label or literature accompanying the pesticide or device.

The basic labeling requirements are found in Section 2(q) of the statute. This is the section of the law which contains definitions of terms used in the law. Section 2(q) specifically defines the term "Misbranded." This definition of misbranding identifies a number of specific items that must be present on a label to preclude the pesticide from being misbranded.

Let us take a moment to review these required labeling statements:

Slide I - This is a skeletal representation of a label showing the basic requirements. As I stated previously, we are dealing with the 1947 statute and interpretative regulations in addition to some new requirements under the 1972 amendment to the 1947 statute. The two items with asterisks are new requirements. The present regulations require that a signal word, such as

"Caution", "Warning", or "Danger" along with the statement, "Keep Out of Reach of Children appear on the front panel of all pesticide products.

These regulations contain specific requirements relating to the legibility of the required statements. With respect to the signal word and the statement, 'Keep Out of Reach of Children', the type size must bear a reasonable relationship to the other type on the front panel. In this regard, the signal word must be at least 18 point type and the statement, "Keep Out of Reach of Children", must be at least 12 point type. In cases where the label space is too small, permission is granted for reduction in type size but in no event smaller than 6 point.

And now let us dissect this label and discuss specifically the items listed on the skeletal label I just showed you:

Slide II - Name, Brand Name or Trade Mark

Must not make false representation

Must not give misleading impression as to content

Slide III - Directions For Use

Must be adequate to effect intended purpose of product.

Directions + classification and other restrictions = protection of public health and environment.

Slide IV - Warning or Caution Statements

Must be adequate, if followed, to protect public health and environment Pesticides highly toxic to man must bear the skull and cross bones, poison in red on contrasting background.

Statement of practical first aid treatment

Slide V - Ingredient Statement

Must be on immediate container

Name and percentage of each active ingredient required

Arsenic containing pesticides must show percentage of total and H_2O soluble, arsenic calculated or elemental arsenic.

Slide VI - EPA Registration Number

Must not appear so as to mislead. Type size consistent with other print. Parallel to other print.

Slide VII - Establishment Registration

Must bear number assigned to establishment in which pesticide was produced.

Slide VIII - Net Weight or Measure of Contents

Must be accurate as to quantity of contents

No variations below claimed quantity allowed

No unreasonable variations above claimed quantity allowed

Slide IX - Name and Address of Producer, Registrant or Person for Whom Produced

Must be that of the manufacturer or qualified to show that name is not manufacturer.

1. Distributed by...
2. Packed for...
3. Sold by...

The Agency's Hearing Examiner rendered an opinion relative to the purpose and intended direction of labeling in the Continental Chemists Case which involved a canellation action on a lindane vaporizer product. The Examiner stated and I quote:

> "The labeling of an economic poison deals with the means by which communication is established between the registrant and the user. In bulk, that means a communication by language; and sometimes by symbols. The first step to be taken is a determination of the communicatee - must labels be addressed to those of all ages; to those of all degrees of understanding--, etc. As I see it, FIFRA requires a labeling that has as its communicatee the well-known reasonably-prudent-man. If labeling can be readily and clearly understood by the reasonable prudent man it should suffice to meet FIFRA's obligation to provide protection in the use of an economic poison."

This in my opinion an accurate assessment of the situation.

The existing regulations for the enforcement of the law specifically require that all statements, graphic representations or designs required to appear on a pesticide label be clearly legible and easy to read by a person of normal vision. The regulations require use of the English language on pesticide labeling, although there are provisions for permitting the use of foreign language text on those labels for products intended for distribution in areas where a large percentage of the population does not speak the Englaish language. In developing regulations to implement the 1972 statute we are giving serious consideration to requiring bilingual labeling in those situations where the Administrator considers it is in the public interest.

It is necessary that labeling for pesticide products be understandable to the user. Pesticide products are used by a wide range of people for a wide range of purposes. These purposes vary from the "housewife" who uses a moth proofing chemical for her woolens to very complex applications of chemicals by highly trained pest control operators. Thus, labeling must range from the simple to the very complex. There is at times the criticism that labeling for pesticides is not consistent. Everyone would agree that products with the same composition for the same uses should bear essentially the same type of labeling. We cannot, however, conclude that all pesticides of the same composition should bear the same label in spite of the patterns of use. To put it simply, a pesticide product must be labeled to reflect its specific composition, pattern of use, possible hazards and characteristics.

Any discussion of labeling from the Regulatory Perspective would not be complete without some treatment of advertisement. As a matter of fact, as I have stated before, the definition of labeling under law includes, "any written or graphic matter accompanying a pesticide or device or to which reference is made in labeling or literature accompanying the pesticide or device." So you can see that quite a lot of the material that we commonly refer to as advertising is in fact also labeling as defined in the law.

Section 3 of the law requires that in applying for registration, the applicant must submit, among other things, a complete copy of the labeling and a statement of all claims to be made for the pesticide.

Now, Section 12 of the law makes it "unlawful to sell, offer for sale, hold for sale, ship....any pesticide if any claims made as a part of its distribution or sale substantially differ from any claims made as a part of the statement required in connection with registration." Previous interpretations in this connection have held that this means simply that claims made in advertising must not exceed claims accepted in connection with registration of the product. This means, for example, if we refuse to accept safety claims as a part of the registration - and we do refuse such claims - they are equally unacceptable in advertising.

It is our policy to cooperate with the Federal Trade Commission in regulating pesticide advertising since both Agencies have responsibility in this area. Generally, the policy is for advertising other than labeling to be handled by the F.T.C., however, both Agencies reserve the right to exercise their respective regulatory powers to protect the public interest.

The Office of Pesticide Programs, EPA, is now taking a fresh look at its role in the regulation of pesticide advertising as a part of the total pesticide strategy. It is quite possible that this review will result in some new initiatives into this area.

In closing, I would hope that we have been able to lay something of a foundation for addressing the problems that we will consider in sessions this afternoon and tomorrow. I think it can be safely said that we have the regulatory tools to do the job. We now must get on with improving pesticide labeling within this framework.

LABELING REQUIREMENTS - ENFORCEMENT

A. E. CONROY II
Pesticide Enforcement Division
Environmental Protection Agency

Good morning. I have two messages this morning. Number one, I am not a lawyer, and number two, I am not here to read the ACT to you as law. I do want to discuss with you two programs that we have - the Inspection Program, through which we determine if a producer is in compliance with the statute regarding labeling, and a few words about the misuse provisions of the Statute.

The general requirements for acceptable pesticide labeling have been outlined by Doug Campt. These requirements are eventually used by the Agency in reviewing your company's application for registration. When your specific application is found to be acceptable, that is, to be safe and effective when used as directed, the agency stamps the label accepted and puts a date on it. A copy of that label is forwarded to the inspector in the field - the EPA region where your company is located. There are ten such regional EPA offices throughout the United States.

The total EPA Pesticides Enforcement Program, including inspectors, case proceeding officers, and attorneys, is 150 persons, nearly three times the number of persons we had prior to the 1972 amendments to the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA). Our operating budget for the Pesticides Enforcement Division is about $3.5 million dollars. At headquarters, the Pesticide Enforcement Division plans, directs, and supervises pesticide enforcement programs of the Agency. The national program is planned at headquarters, and forwarded to the regions for review and for targeting commitments and objectives for that program. Those objectives are returned to headquarters, and, after a complicated review, are eventually approved by the EPA Administrator, Mr. Train. Headquarters, then measures the results obtained by the regions against the objectives and the commitments.

The responsibility for the day-to-day Pesticides Enforcement Program has been delegated to the regional staff. To facilitate this delegation, standard policy guidelines and procedures have been established for handling Enforcement actions. This transfer has cut down the flow of paperwork and placed operating control in the hands of regional officers, who, being closer to the facts, can respond to them with more sensitivity and speed.

There are three 1975 program objectives to be met by the regions. The first is the number of producer establishments to be inspected by the regions; the second is the number of intrastate pesticide producing plants to be registered; the third is the number of use and reentry investigations to be conducted. The objectives for 1975 have not yet been approved by Mr. Train. However, the 1974 objectives were in the neighborhood of some 2,000 producer establishments to be inspected. It is anticipated that the 1975 objectives will be in the same neighborhood.

Section 7 of the Statute requires that each establishment producing pesticides subject to this ACT be registered with EPA and that they file annual reports concerning the types and quantities of pesticides produced at that establishment. This procedure will provide the EPA with critical information not presently available on the establishments producing the pesticides, and the types and quantities of pesticides now being produced.

A computer system has been developed that will allow us to use the data to develop statistically sound establishment inspection programs, to trace shipments of pesticides between establishments in order to effectively recall or stop sale authority, and to cross-check to assure that only registered pesticides are being produced. Manufacturers will receive an establishment registration number which they will be required to place on the label of the pesticide produced in that establishment. Failure to register an establishment, failure to use the establishment number on the label of the pesticide produced there, failure to provide the required reports, are all prohibited acts. Regulations required by this section of the Statute were promulgated and published in the Federal Register in November of 1973. To date, the Agency has registered 3,507 establishments.

Section 9 of the Statute provides authority for the EPA to inspect establishments where pesticides are produced and held for shipment or sale, and allows for the collection of samples of pesticides packaged, labeled and released for shipment. It is through the inspection of establishments that EPA can best detect violations of product labeling and chemical composition requirements. To a large extent, an adequate inspection program can bring about the type of quality control that ultimately is necessary for optimal environmental protection against the hazards of misbranding pesticides. Inspection of the product establishments allows for discovering violations before they can reach the market place, and, if necessary, the new stop sale authority can be used. The regions select the producers to be inspected, based on the guidelines put out by headquarters for the regions. These guidelines set the criteria for inspection in the following sequence:

1. Producers of pesticides whose products this agency has

never sampled.

2. Producers of pesticides whose products were recently found to be in violation of the Statute.

3. Producers of pesticides whose products have been found consistently to be in compliance.

The inspections include a review of the manufacturers records as required by Section 8 of the ACT, a check of the registered labels to assure that the collection of samples are done, and that registration requirements are met. Also, time is spent to educate the producers concerning the law, the regulations, the registration of establishment requirements, and to provide them with any forms necessary to accomplish this. The timing of the inspections should not significantly disrupt normal business operations. Our inspectors have been informed of national guidelines for regions and that greater industry cooperation will be obtained through courteous persuasion and tact rather than by stressing the force of the law.

National guidelines for inspectors direct the Inspector to first present his credentials to the producer. He, then, must present the producer with a written notice of inspection explaining the reasons for the inspection, what violations have been committed, and, that he, the inspector, has access to all pesticide products packaged, labeled, and/or ready for shipment.

The inspector is also required to inform the producer that he is entitled to a duplicate sample of the pesticide. It is interesting to note that out of the 1,500 inspections that have been conducted in the past, only 25% of the producers have requested duplicate samples. As you know, these samples can be used in court cases by both EPA and the producer. So, it is important that you, the producer, ask for a duplicate sample of the pesticide.

The National Guidelines also direct our inspectors to explain the results of their inspections. What, then, can the producer do to comply with the law? He can become familiar with the laws by attending meetings such as this. He can register his product. He can register his producing establishment. He can practice good quality control - not only in the formulation of the product but also in the labeling of the product. A great number of misbranding violations are caused by use of an old label that is no longer acceptable or by using a new label prior to acceptance.

My next subject concerns Use and Misuse of Pesticide Products.

Section 12 of the ACT prohibits the use of any pesticide in a manner inconsistent with its labeling. This is a new requirement of the Statute. Due to the millions of pesticide users, it is extremely difficult to detect and enforce the law in terms of misuse. Obviously, any programs in this area will have to be directed to those misuses which are likely to create serious damage to human health and the environment.

The first part of the EPA Use Investigation Program involves obtaining needs from currently existing sources such as food and drug residues, citizen and trade complaints, and EPA accident investigations. These leads will be reviewed by EPA and, when appropriate, will be followed up by further investigations, inspections, and prosecution if it is warranted. The program detects misuse only after the fact and only if the misuse has resulted in some detectable residue or in an incident.

The second part of EPA's use investigation program is a limited supplemental program of surveillance, which is undertaken by EPA on its own initiative. The program provides for an increased effort related to products and user groups, selected periodically by Enforcement and the Program, as posed in especially serious danger to the public health and environment. Again, I emphasize, it is unlawful for any person to use any registered pesticide in a manner inconsistent with its labeling. Any use of a registered pesticide not in accordance with the directions for use that are included on the labeling is in violation of the ACT.

Doug Campt has explained to you the difference between the label and labeling. If the registrant desires to allow certain qualified applicators to vary from the normal directions for use of a certain pesticide, and if this Agency, the Registration Division, and John Ritch are in agreement, such allowance could be explained in accompanying labeling. Under these conditions, such use would not be in violation of the law.

Discretion remains to the Agency to determine whether a violation has occurred, and if so, what level of enforcement action is necessary in terms of prosecution - criminal or civil. Bear in mind, however, that Section 9(c)(3) of the Statute states in part, "Nothing in this ACT shall be construed as requiring the Administrator to institute proceedings for prosecution of minor violations of the ACT."

In 1968 the GAO published a report to the Congress entitled "Need to Improve Regulatory Enforcement Procedures Involving Pesticides." Many of the deficiencies pointed out by that report were admitted and predecessor agency initiated changes in policy and procedures to correct those deficiencies.

In May of 1974, the GAO published a report to Congress entitled "Pesticide Actions Needed to Protect the Consumer from Defective Products." During the time frame upon which the GAO report is based, (January, 1968 through June, 1972, a period of some 54 months), this Agency conducted its own investigation, and had noted many of the same findings specified in the GAO report. In late 1971 this Agency established the Pesticide Enforcement Division (under the control of the Assistant Administrator for Enforcement), specifically to correct the discrepancies specified in the GAO report.

The 1972 amendments, a change in the Agency's philosophy toward pesticide enforcement, and substantial increases in resources,have corrected many of the discrepancies reported by GAO. During the 54 months covered by the report, the Agency conducted no establishment inspections. The Agency sampled 7,000 of the registered products and initiated some 52 major enforcement actions. During the past nine months of our present program, from July, 1973 through March, 1974, the Agency has conducted some 1,500 inspections of establishments, has sampled 3,000 of the registered products, and has initiated 378 enforcement actions.

While this Agency, our predecessor agency, and the industry have been severely criticized concerning compliance with the law, it should also be noted that the great majority of the industry is now producing pesticides that are in compliance with the law in all respects, and that those firms that are not doing the same are quickly brought around via education through our inspection program and the use of the civil penalties provisions.

The industry has acted responsibly in the recall of products, a sanction that is not specifically provided for in the Statute. In over 500 Agency requests to the industry to recall products potentially hazardous when used as directed, all but two firms fully cooperated with the Agency.

Industry has taken the time and made the effort to comment upon Section 7, the Establishment Regulations, and Section 8, the Books and Records Regulations - the two regulations for which the Pesticides Enforcement Division has lead responsibility. We feel we have better regulations, because of your concern, your efforts, and your time.

LABELING REQUIREMENTS - FUNCTIONAL

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I always approach talks of this sort with foreboding, because being the only state person on a program presented by agencies, I suspect they may be pulling one of our old tricks. We'd put an extension man on, tell him what he was supposed to say, get him behind the podium, and then follow him with someone else who would tell what he should have said.

This morning, however, I want to talk with you about labels from a point of view we haven't considered yet. We must recognize that labels are useful tools, and that most people know very little about pesticides. We must also recognize that in spite of our efforts, not enough people read pesticide labels carefully, Finally, we must recognize that most pesticide accidents occur in the home or non-agriculture settings. For instance, in Illinois, which probably has better records in this than most states, nine out of ten pesticide accidents happen in homes. Furthermore they happen to an age group that does not read labels, because another group also does not read labels.

Mr. Conroy has already pointed out that enforcement of pesticide misuse provisions is almost impossible, unless it is after the fact. Therefore, we must establish priorities to be considered in lebel regulation. Do we want the label to become more and more of a legal document? I know what happens to the fine print on my insurance policy; it doesn't get read. Do we want the label to replace the recommendation of the agricultural colleges and cooperative extension services? Do we want one label to apply everywhere in the United States?

Mr. Campt expressed my view of the label clearly when he said that the label should aid in allowing the use of a pesticide without adverse effects on the environment. With this I agree, and to this end we should direct our efforts.

To do this, we must make the label more attractive to the user, to make him want to read it. It is therefore important to keep the label simple. The ideal label should contain, first, the common name, for instance, "Product X, Garden Fungicide." Then listed should be which diseases on which crops the product may be used. It should have a statement of the active ingredients and the amount. The caution statement appears at the bottom and all should be legible. In addition, directions for use regarding timing, crops, diseases and amounts should be clearly outlined.

I will now proceed to specific problems; unfortunately, regulation of labels has not been consistent, and so we have many different difficulties to examine. For instance consider common names. I urge you that whenever possible, a common name for a material be established when that material is first registered; thereafter, that common name will always be used for that product. This step would aid pesticide users generally, and medical personnel in accident cases. Usually a chemical name is not recognized by users. This step would guard against product line names such as "Raid" or "Orthocide"; These generalized line names cover numerous unrelated products, and cause confusion. Another problem on these lines is the change of product formula without corresponding change in name; "Isotox" is an example. Enlarging the print size of the ingredient statement would also be helpful.

Another major problem area is the confusion of toxicity signal words. The four toxicity categories and their signal words are; highly toxic,-skull and crossbones, "danger", moderately toxic,-"warning," slightly toxic,-"caution," and relatively non toxic,-with no signal word. These terms are not all used consistently for various formulations of the same pesticide. One reason is that the warning, "Keep Out Of The Reach Of Children" is placed close to the signal words. The user sees the children warning, says "Oh hell, I knew that", and reads no further. He doesn't read the caution and warning statements because we are telling him something he thinks he already knows. As an example we have the repellent "Off ." Here is a material that you rub on your hands, your face, your neck, and yet you have the same cautions printed on the container "keep Out Of Reach Of Children" which is supposed to mean something else on a pesticide container label.

A related problem is the close placement of flammability and other caution statements. I think, then, that the "Keep Out Of Reach Of Children", the signal word, and the flammability statement should be divorced from each other. In addition, it might be helpful to design new symbols, like the skull and crossbones, for the other toxicity categories.

I'll reiterate what I consider to be the characteristics of a good pesticide label. The common relatively simple name and the chemical name appear in the ingredient statement. The common name and directions for use appear in a systematic format. The various cautions and warnings are distributed so that they will all be read. All of this is legible, and when possible completely in one area.

I am about five minutes overtime, but I have two more concerns that cannot be overlooked at this time. One of the problems of labeling is how the consumer is going to know what labeling covers. This is aggravated by the problem of October 1974, when many state registrations will no longer be in effect, and when we have the problem of minor and speciality crop uses.

In New York we have about 2,000 which are not officially registered at the EPA level. I don't know who is going to do it, but it is going to be chaotic. Many of our recommendations probably will be withdrawn unless something is done about it.

One other problem worries me more than a little and that is that there is a growing breech within the EPA as to the interpretation that a label had when it was originally accepted by the Office of Pesticide Programs and that interpretation some of the enforcement offices give the situation. It makes it extremely difficult for us to work and train people and to get them to follow certain procedures as a matter of training, then they find out, "Well, so and so says that really isn't so." Soon they say, "Oh, what does it mean?" I am willing to give up.

I think we have to be very careful about this sort of thing in the matter of labels and dosages. I understand Mr. Myrack and Mr. Kirk have been exchanging letters. I have always been under the impression that the label carried the maximum dosage, especially on food crops, that could be used to keep you within the tolerance level. Certainly we in the New York area frequently have not used maximum levels nor do we intend to begin to do so; and that would only add more pesticides to the environment.

We have to reappraise what we are going to use the label for, what value it has, and then set out doing it. Hopefully, we will make the label a useful tool and a tool that will be used.

Thank you.

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Ladies and gentlemen, one of the previous speakers said that he hoped that the environmentalists would be here.

There is one here. I am an environmentalist. I believe that everybody in this room is an environmentalist. We may have a little different philosophy and a little different background, but I believe all of us do want a good, clean and safe environment.

Also, there is a member of the Sierra Club here. I am a member of the Sierra Club and have been for a long time. We have people in the Sierra Club who look at things in black, we have people who look at things in white, and all shades in between.

I have to admit that I am one of the shades in between.

It is a great pleasure for me to be here today to discuss one of my hobbies - pesticide labeling.

I retired from the Federal Government about five years ago, and then, after painting the house and few other things, I inadvertently went by the Department of the Bureau of Chemistry in Sacramento, and in three days I was back working at about the same job I held with the Federal Government. Now I am with the State of California Department of Food and Agriculture.

One of the reasons I wanted to get back into this type of work, especially with the California Department of Agriculture, is because they had at that time what I considered to be a complete program of pesticide regulation. Their law did cover usage; it did have what we have now adopted in the federal law regarding usage; it did have a number of restricted materials. I think California has a complete system for controlling products of this kind. It has had for many years.

I am not as sure now as I was then that these things were needed, that they will bring about all the fine benefits of pesticides and have a good effect on the environment. It is harder once you get into these things to find the answers.

My part of the California program deals with registration itself. It deals with environmental protection, and it deals with workers' safety.

Other parts of the California program, of course, involve the things that Gus Conroy has already talked about - the sampling of pesticides, their evaluations to determine whether or not they are up to claim and are labeled correctly.

Another phase of the program is the sampling in the field on the raw agricultural products to determine if they have violative residues on them. We quarantine production if we find residues. We analyze about 10,000 samples a year, which is far above the number sampled by the Food and Drug Administration in our area. We have a fairly good idea of what is being used and how it is being used by sampling the products as they come from the field.

The usage enforcement involves still licensing examinations of pilots of aircraft who apply these pesticide products, as well as ground applicators and what we call pesticide advisers.

Most of the advisers are also salesmen, but there are many advisers in the state of California who do not sell pesticides. They make recommendations to farmers. These recommendations are made in writing. The farmer is advised as to what product to use and whether or not there are limitations on the use, such as not to harvest within 10 days of application, or, not to permit workers to go in the fields within 15 days of harvest. There, of course, may be contradictions of this. The directions must be on the recommendation.

The overall programs are directed by people at the state level in Sacramento, although we do have people in Los Angeles and San Francisco. Most of the programs are directed by persons in Sacramento.

In California we have what we call the County Agricultural Commissioner System. Each county (there are about 50 to 55 counties) have Agricultural Commissioners, if they so desire, who are hired by the county supervisors. The Commissioners are hired from a list that is certified by the Director of Food and Agriculture. They must submit to an examination. This examination is very similar to the Civil Service Examination. A county supervisor cannot hire just anyone for the Agricultural Commissioner's job.

The Agricultural Commissioners supervise many enforcement activities, such as egg inspection, food and vegetable inspection, and meat inspection. The inspection of pesticides is also one of their functions. The Commissioners also have access to an employ some 700 people who are on call and can join in the enforcement activity at any time. They supervise the applications of pesticides, watch for violations in the field and issue citations if they see violations. This is done is much the same way that an officer would give a citation for a highway violation.

In California this use enforcement is estimated to cost the Agricultural Commissioners at the county level about $1-1/2 million. At the State level these programs cost about $1-1 1/2 million, so that there is about $3 million going into pesticide enforcement control. I believe that the Federal government which might get into usage control must allocate funds in about the same amounts for registration and other pesticide activities. If they have $30 million devoted to these then it would take between $60 million and $100 million to expand into usage control. This may not be necessary.

After working with both Federal and State systems I do not advocate this expansion of Federal pesticide activities just as I would not advocate other States adopting the county agricultural commissioners system. Each State and organization must, based on its own findings and needs, decide where to put its money. For instance, in California, the pesticide regulatory program would fail without the Agricultural Commissioner system. But I do not recommend that this system be adopted in other places.

Let's go back in history. The first California law was adopted about the same time the first federal law was, about 1911 or 1912. The first law did prescribe analyzing products. It did call for registration, a perfunctory listing of what the agricultural stations used.

There was a gimmick in this law that only those products need to be registered that cost more than one half cent a pound. I cannot imagine any pesticide selling for less than a half a cent a pound new, but apparently at that time they may have, for instance sulfur or perhaps tobacco dust.

The California revised law was passed in 1921. By that time they found registration didn't mean much, when it was simply a listing of products. The new law called for the denial of registration for worthless products and products not proven to be of pesticidal value.

At that time, too, the California department was authorized to do about the same things that are now encompassed in the amended Federal Insecticide, Fungicide and Rodenticide Act. Actually, from the earliest days in pesticide work in California, it's been a consistent policy of the California authorities to work with manufacturers and all other interested parties, hold meetings, conventions, and conferences, to try to outline to them the new developments in pesticides.

In 1923, Director Hecht pointed out the danger of selling from bulk into unlabeled containers, and shortly thereafter this was made illegal in California. Also he complained about tree doctors who were injecting trees for the control of insects, were killing the trees rather than the insects. In this case, of course, he denied registration.

Also, he complained about poultrymen who were being offered a product that would forever after keep insects off poultry. In this case, too, he denied registration, and shortly thereafter he was taken to court for denying registration. About 2 years later, an Appellate Court decision in the State Court upheld his right to deny registration for worthless products or those that caused damage to the environment.

An important decision was made later by regulatory people, producers and legitimate merchandisers. Allen Cox, as the forerunner of modern-day pesticide regulations, in 1937 stated to the industry that claims such as "improved, activated, stabilized" must be proven before they could go on the labels. He commented that used pesticide containers could cause trouble, and he specifically mentioned a product that was advertised as "to make a dandy bird bath when empty."

He denied registration to poisons sold in bottle caps as being a hazard to children. He placed thallium sulfate in 1937 under strict control of the Agricultural Commissioners, so that it could be used only by official people.

An interesting sidelight to this is that just last month, a farmer-rancher, in moving some old stocks, found a bag of what appeared to be grain. Then he noticed there was a tag attached to the bag, a skull and crossbones. No other wording was legible. The skull and crossbones alerted him and he sent the product in to our lab. It was thallium salfate-treated grain. As a consequence, this was disposed of in what we call a class one disposal site.

This points up the very great difficulty, of removing from the market, from the home, and from all places where they may be stored, pesticides that should not be around.

Dr. Cox, at a national meeting, also talked about the coloration of pesticide products to avoid having them mistaken for sugar or flour. He mentioned the off-color paints for calcium and lead arsenate.

He pointed out that labels often become illegible or detached, and advocated that pesticides be labeled "Keep Package Away From Children." He also proposed the label warning, "Do Not Store Near Foodstuffs." These are now practical Federal requirements.

Dr. Cox warned against transferring pesticides into unlabeled containers. In the past 2 months, by the way, there have been deaths consequent to pesticides being transferred to unlabeled containers. We do not know how to prevent people from pouring pesticides from the original container into unmarked containers.

Dr. Cox also recommended that a repulsive odor be built into the pesticides, and he denied registration to products in collapsible tubes similar to toothpaste tubes, mainly because when the tube is rolled up, the caution or warning statement then disappears.

My purpose in going over the history of this is to point out that over the years we have faced aalmost the same labeling problems we are facing today. Actually, there have been improvements in labels, and we should not be discouraged when we face new problems. From this conference, we hope, will come new suggestions to improve pesticide labels and labeling.

The new generation of synthetic pesticides came into use in the late 1940s. In California, we immediately ran into trouble. There was serious injury to non-target crops of grapes and cotton due to 2,4-D drifting for miles from the site of application.

Shortly thereafter, hearings were held in Sacramento to decide what to do about the 2,4-D. The grape and cotton people brought in their damaged plants. The grain growers, who could increase their grain production by using 2,4-D defended vociferously their right -- "right," so they said---to use 2,4-D, in the culture of their crops. Fortunately, Mr. Lanham, the Bureau Chief at that time, headed off bloodshed in the hearings. It came close to that.

From these hearings was developed the restricted materials regulations that are in use today in California, which involve a permit system. Before a grower can use a product on the restricted list, he must go to his Agricultural Commissioner for a permit. This permit, its limitations on use, and the areas in which 2,4-D can be used are discussed by the Agricultural Commissioner with the user. The permit number must appear on the invoice that he purchases; thus, his right to use the product is involved in his possessing the material.

Since the time this permit system was developed, we have placed about 30 to 40 other products on the restricted list. Since last year, for example 21 additional products were added to it.

There are many reasons for putting names on the list but generally it is due to a problem that has developed over the years in the field, for instance toxicity to other crops, or human toxicity, as in the case of parathion, which has long been on the list. A third reason is exampled by the recent listing of mercury-contaminated seed. We placed the treated seed on the permit list; in order to plant mercury-treated seed, the grower had to get a permit from the Agricultural Commissioner. The problem was that pheasants were eating the treated grain, and the mercury was turning up in the pheasants. But it is a moot question since mercury-treated seed has been suspended in California.

We have a computer system in California which revolves around reports to the Deaprtment of the use of certain pesticides. All restricted materials used by the applicators must be reported. We think we have a report rate of 80 percent. As data comes in, we compile and publish a list of these reports.

Ancillary to the use reporting which we started out to do, is the registration information that goes into our computers. We issue re-registrations by machine in California. This computer programming is a big headache, and is very expensive. We have had it about 5 years and I would not recommend its use to other States unless these States can put the people and money into it.

In the present day, our law authorizes control at the user level and has done so for several years. This applies as the Federal law does, to the householder as well as to the agriculturist. We think most of the pesticides are used by the agriculturist and so that is where most of our effort goes.

Our law prohibits use of a pesticide in conflict with its label, but we do not know exactly how this squares with the "use inconsistent with labeling" provision in the Federal law. We think the words mean about the same, but we are not sure. It will probably take a court decision or an agreement between our state attorneys and the Federal attorneys to settle the issue. We say that any use that does not appear on the label is in conflict with that label.

However, when legislators included this conflict with usage provision in the law, they also authorized the director, and in certain circumstances the Agricultural Commissioners, to authorize useage. We have a special form for these usage authorizations. For instance, if one wanted to use an insecticide on cyclamen in the greenhouse for commercial production, the nurseryman could obtain an authorization from us, after consideration was given to the effectiveness of the pesticide, the possibility of injury to workers in the usage, and whether or not there might be a pre-harvest or worker harvest needed. We write a specific authorization and put on it a date at which it no longer is effective. We have been doing this for about 5 years.

This may be a violation of the law and inconsistent with Federal law. Gus Conroy may throw me or my director in the hoosegow but we are continuing with these authorizations as a satisfactory way of handling minor crop usage. This authorization program does not apply to the myriad of minor crop usages we will have to think about in the future.

On May 9, a little less than a month ago, our worker safety regulations, enforced by the Department of Agriculture went into effect. These regulations are constructed to fit in with OSHA and with CAL OSHA programs. CAL OSHA may take over the worker safety program. Until then, to continue the program, we passed these regulations. I am not going to discuss the worker re-entry time limits, which were the center of much controversy both state and federal. We incidentally think we may have different conditions in California than in other states, and we would not advise other states, nor the Federal government to pick up our worker re-entry time limitations.

In the few years that we have had specific worker re-entry periods, we have looked for, but not found violations. We think these worker re-entry periods do not interfere with cultural practices. We do not have worker injuries from re-entry in those specific locations, for the specific crops, where these worker re-entry periods are in effect.

We know from doctors' reports which must be furnished to our department and to the health department that the workers exposed to most pesticide risks are those who use the concentrate materials, those that handle them, those that pour them into the mixing tank to make the dilute materials and those that spill them on themselves.

Consequently, in our worker safety regulations, we are providing for the adoption of closed system handling of the concentrates. In other words, they will not be handled, they will not be opened. They will be placed in machinery that can open the containers or mix it so that no person is exposed to them in the mixing. This is a long-term project which involves a construction of new agricultural equipment. We probably will grant the University of California money to work on this. However, we are also involved.

Of course, the thing we want to do there is to make the work place safe. This is an ultimate ambition, to make the work place safe for all workers. In the meantime, however, label instructions must be followed. This, as you know, poses serious problems. It is very difficult to follow all those label instructions regarding pesticide concentrates.

A great burden is placed on the label. Neither the label nor the workers can accept full responsibility. This brings us to the question of why labels are in such a confusing condition. I would say this: Most labels were devised according to the old theory that if you tell a person, through a label, how to use a product effectively and safely then he can follow that label and get effectiveness and safety.

I think our interpretation of the meaning of the registration and the new law will lead us to requiring that one must follow the label. We will have difficulty trying to decide for the more toxic categories of products just how much of the label has to be followed. The labels are not ready for this yet. This applies to pre-harvest intervals as well. At the time many tolerances were adopted, there was no point in putting a short harvest interval. Regulatory people didn't see any problem if they set an application limit four weeks before harvest, because it didn't interfere with the cultural practice. There was no use making application dates closer to harvest. Now however, some field operations after the application of pesticides would make it handy to have more exact pre-harvest intervals.

During the period that we have had usage control, we found it necessary to institute a toll-free hot line for agricultural commissioners who get questions in the field from experienced field people. These questions deal with label meaning and usage patterns. We have one full time man answering the telephone and researching the answers to these questions. Frequently we don't have the answers, nor do the EPA field men know the answers. They have to go to EPA in Washington to get background, and this is an expensive process. I think EPA, if they expand into usage control, will come up against this more and more.

We also get much input from manufacturers. Once EPA registers a label, it becomes automatically fixed. They tell us we can't ask for a change. They tell us they have registered with EPA and don't want to take another year to go in and get a slight change in the label. Ordinarily we don't ask for what we consider to be slight changes. We ask only for those changes we consider to be major. We do find that when the EPA and manufacturers, together examine these problems involving label discrepancy between what EPA wants and what we want, there are no major problems.

Of course, we do want worker safety standards and labeling of time limitations between application and harvest. We would like to have these on the labels. We have asked for it in the labeling or in bulletins, but we have not yet insisted on that. We have suggested from time to time that in this labeling format one special place and type for cautions and directions would be useful. We are looking to new innovations and we will adopt any new labeling that appears satisfactory. We know that labels must be improved.

We have legislated usage control. Labels must be followed. What we need now is to legislate comprehension but I don't know how we are going to do that.

Labeling Problems - Federal

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DR. WELLS: Good afternoon, fellow environmentalists.

One of our speakers this morning made reference to a famous Greek, Archimedes, the great mathematician.

I, too, find myself drawing an analogy to a well-known Greek from mythology. However, the Greek that comes to my mind was not gifted with lofty intellect nor was this Greek a man. The Greek for whom I feel empathy at this point is Pandora, the ill-fated lady of Greek mythology who opened the box given to her by the God Zeus and in doing so released all the ills and evils known to man.

While it falls my lot to open this box of labeling problems with this afternoon's session, I do so with the hope that the evils thus exposed will not escape us as they did Pandora. I and the speakers who follow me this afternoon open this box with the full knowledge of it's contents. We expose these problems not to allow their escape through ignorance, but hopefully to allow their resolution through knowledge and discussion.

For the next few minutes I would like to explore some of the problems encountered by the EPA in operating within the framework of requirements outlined by this morning's speakers.

As I am sure most of you realize, the labeling is the ultimate vehicle for expression of the laws regulating the registration and use of pesticides. The labeling explains, determines and regulates. The labeling is the capsule summation of all the characteristics of a given pesticide product. In short, both the purpose and function of labeling is to communicate in one way or another all of our basic problems with labeling related to this: communication. The labeling and those accompanying materials which make up the labelings were born in the first step of this communication: the communication from the registrants to the Registration Division of the EPA. This labeling is in the form of draft or intended labeling. It is this draft labeling which forms the framework of the registration review which follows.

Unless that labeling contains all the necessary information, valuable time is often lost in order to either change the labeling or for the review to begin at all. I am sure that it is often difficult for the registrant to ascertain if his labeling does in fact contain all the required information. No doubt the registration guidelines, hopefully to be published in the near future, will help remedy this problem.

However, there are certain steps that a registrant can take to insure his success in providing all the information. He should insure that his intended label reflects the results of the data that he has gathered in support of that labeling. A registrant should not second-guess the data nor should he propose labeling which projects hopes rather than facts. In label review we are dependent upon the facts before us and cannot afford ourselves the temptation of claims and hopes more readily visualized by sales personnel than by pesticide scientists. Indeed, it is often the influence of salesmanship which accounts for many of the problems encountered in this initial step in labeling development. We encounter, especially in the case of older pesticides, a given use for a given pesticide expressed in many different ways. The situation that is often caused by sales influence is one which wants a little different wording here and a little different wording there in the hope of expanding a market. Over the years this word manipulation has been one of the factors which has helped to produce labeling filled with inconsistencies and excess verbiage. Many of these examples were shown to you this morning by Dr. Dewey.

A possible resolution to this problem may be the development of standard or master labels. The master label for a pesticide would reflect all the registered uses for that pesticide, with standardized, concise directions for use.

A registrant might not want nor would he be required to put all of the uses on his given label, but those uses that he did choose to have on his label would have to reflect the standard use directions.

We must start thinking along these lines. We must stop registered labels and start registering pesticides.

Let us now explore the second step in this communication: the communication from EPA to the registrant.

For an application that is received by the Registration Division, a screen of sorts is given to the application before it starts down the review chain. Sometimes this screen detects that the submission is not complete. Sometimes it does not. Often valuable time is lost when something is lacking which may be required and may not be discovered until midway or further down the review path. Thus, time is lost in communicating this need to and receiving this information from the registrant.

The EPA Registration Division needs to beef up our initial screen of applications to insure completeness at this initial step. We are taking steps to do this in the current reorganization.

It is impossible to have one person review all applications; therefore, there will always be some inconsistencies. However, the inconsistency in label review presently far exceeds this minimal acceptable level. This inconsistency is due in part to many of our current procedures. One of these is in allowing review to proceed along one of several pathways, which allows many different people to become involved. This gives room for inconsistency and for confusion.

Again the reorganization now underway will, hopefully, aid in correcting these procedures. Products will be assigned to product managers who will coordinate the application's review and be the contact men for all applications on a given product. Review will tend to proceed down one pathway rather than many pathways.

Another contributing factor to the inconsistency and confusion in label review is the fact that often review is really based more on tradition and--I hate to use the word, but it is true--folklore handed down from reviewer to reviewer. There are no--or very few--internal registration review guidelines available for the reviewers. Since we presently have very little to guide the reviewer other than training and tradition, we have a need to develop internal registration review guidelines. Work has already begun on such guidelines, and I can assure you that they will have a high priority during the summer months.

Unless we have such guidelines--guidelines that tell the reviewer when he gets an application in front of him what steps that he must take in review of this application--unless we have guidelines that tell us that and more, the present problem of inconsistency can grow to chaotic proportions during the upcoming pesticide classification, the reregistrations, and the registration of intrastate registrations.

These guidelines will also help to remedy another problem that we encounter: the lack of a uniform approach to labeling review by the various disciplines within the Registration Division. This problem of differing approaches to the review of labeling becomes especially crucial in view of the misuse provision of the new amendment to the FIFRA. For example, insecticide label reviewers currently require that every insect pest intended to be controlled must be listed on the label. However, herbicide label reviewers allow representative broadly leafed weeds to be listed and then followed by a phrase such as "and similar broad leafed leaves." One allows flexibility; one does not.

We are all familiar with some of the views which have been expressed regarding use inconsistent with labeling. While many of us would hope that judgment and reason could be employed in interpreting labeling, we must be prepared to meet the demands of a strict literal interpretation of labeling with regard to misuse. However undesirable this approach may be, we may be forced to follow it.

The misuse problem highlights a need which is not new. That need is for flexibility in labeling, flexibility of the sort which allows for grouping of similar pests which will be controlled by a similar use pattern and possibly even grouping of similar crops. Crop grouping is one possible approach to solution of the minor crop problem.

Such an approach would require recognition of long-standing agricultural practices which have enjoyed a long history of use.

A case in point is that of type mixtures, many of which are based on years of experience, but yet are not officially registered uses. It may be necessary to include labeling which allows for consultation and recommendation by extension personnel or other experts to meet the local needs without the curse of misuse. Dosage ranges and scales may be employed to a greater degree in the future than they are presently.

Something has to give with misuse, either the interpretation of the label or the label itself. It would be nice if we could have both. If we cannot have both, then we must insure that we have one. Right now it looks like that might have to be the label itself. We must be aware of the physical limitations of the label. It is impossible to put everything on the label.

All labeling should follow the same basic design and highlight the most important information. The various portions of the label, such as the front panel, should be clearly designated and all carry the same sort of information. Thus, a user would always look to the same portion of a label in order to find certain information. This information should be as concise and simple as possible.

The master label concept can possibly offer help. Standardization of terminology and language is needed. Often you can find a herbicide label that may have the same weed appearing under two or three different names on the same label. We need to have standard terms that are employed for pests, for use patterns, and so forth.

The use of symbols rather than words is another approach which is already being utilized in the case of warning statements.

Another concept is regionalized labeling. A number of companies already employ this approach in order to eliminate multiple listings of the similar use under differing soil and climatic conditions.

When we speak of regionalization, one thing coming to my mind is the question of bilingual labeling. All of the problems I have been talking about with English language labeling, of course, are multiplied when we talk about bilingual labeling. It is another problem that we have to consider.

Another problem as yet unresolved is the question of general versus restricted labeling and how the restricted uses are to be identified. The thrust of the FIFRA, as amended, is toward the applicator as the source of knowledge and expertise rather than the label. Future labeling will more than likely reflect this concept.

This clearly brings us to what the last line of communication is: the communication to the user, the most crucial communication of all.

Again, the need for standardization and uniformity becomes all important. If a user can expect to see certain information expressed certain ways in certain places on all pesticide labeling, then he can be more easily educated to read and understand labeling. He will not be forced to hunt and pick through a complexity of words which differ on every label. He will become able to quickly locate and read the important facts governing the use of the pesticide, and we will have come a long way toward dependence on the user for expertise. In those cases where a special knowledge is needed, allowance should be made for consultation and recommendation by experts.

We must also consider the problem of container and pesticide disposal. Many present labels are inadequate in this respect. In this day of energy shortages and conservation of raw materials, we may need to consider the possibility of recycling some pesticide containers into less toxic categories rather than a standard statement which says to crush and bury. Most labels have a disposal statement, but most or many of the statements are totally inappropriate.

I spent the last few minutes sort of bombarding you with a seemingly endless series of labeling problems and related problems. I have attempted to intersperse some possible resolutions as I have bombarded you. I hope I have stimulated you to do some thinking, some constructive thinking. Think along the lines that the label is a vehicle for communication. As such, it must be streamlined to move the information, not to obstruct or to stop the flow of communication. It must be a simplified, flexible message of information concentrating on the most crucial facts, not a bulky compendium of every available piece of knowledge. It must instruct and guide, not beguile or bewilder.

We must now be guided by facts and by reality. The key words are consistency, standardization, simplicity, flexibility, and conformity. These are the keys that hopefully will enable us to open the Pandora's box of labeling with good results instead of disaster.

Labeling Problems - State

William B. Buffaloe
Chief Pesticide Officer,
Pest Control Division
North Carolina Department of Agriculture

Mr. Chairman, ladies and gentlemen, I do consider it a real honor to have been asked to speak to you at the first of what maybe should be an annual Labeling Symposium.

As you can imagine, with a name like my own, I don't receive many straight introductions. I must tell you this story. Recently, about 2 months ago, we were blessed with the birth of a baby girl. Prior to this time, a good friend of mine by the name of Allen Hodge told me, "The worst thing in the world to do is have a child born on this earth without a first name." I said, "Yes." He said, "I can remember mine being designated on a card as Baby Hodge." I said, "Can you imagine what it would be if it said Baby Buffaloe?" We had the name picked out, but believe it or not, they had a bracelet around her arm with the words "Baby Buffaloe."

For 13 years I have been associated with pesticide regulatory activities. The last 6 of those years I have been responsible for seeing that pesticides registered in North Carolina are properly labeled. For 3 years I have personally reviewed approximately 5,000 labels per year. During this time I would estimate that approximately 15 percent of the labels reviewed were not in compliance with North Carolina and/or Federal requirements.

As those of you involved in label preparation or review will agree, the job of detecting errors, omissions, inconsistencies, etc., in pesticide labeling is one of the most undesirable tasks that could be required of an individual due to the punishing reviews that must be made to avoid detrimental consequences. In other words, I do understand how difficult it is for the pesticide industry, the Environmental Protection Agency, and the States to assure that only pesticides with proper labeling reach the marketplace.

As you are aware, I have been asked to speak on labeling problems from a State viewpoint. Several of the points that I wish to make have already been reviewed by Dr. Dewey and some of the other speakers. Rather than not mention them, I think it is important that we indicate that they are also considered problems in the States. By calling attention to areas of concern which in my opinion should be corrected by the Environmental Protection Agency, I do not wish to imply that State pesticide regulatory authorities do not have their own problems.

However, the EPA, as the lead pesticide regulatory body, must initiate additional procedures and guidelines and acquire adequate experienced personnel to see that problems existing today are corrected.

One area of concern to me is that the Environmental Protection Agency has allowed certain pesticides to carry a signal word which indicates that they are in a category of toxicity higher than is the case.

When a user determines that the degree of hazard for such a product is not as critical as implied, and as a result uses the product with less respect than he would use with a more toxic pesticide, whose label reflects the appropriate toxicity category, an increased potential for human illness and even death does exist. I would, therefore, strongly urge that the use of the same signal word or symbol for more than one toxicity category not be allowed.

Another area which was referred to by Dr. Dewey, which means many things and needs attention, is the method; that is, the signal words currently used to designate the different categories of pesticide toxicity. I know that many of you will agree that to the occasional pesticide user, the signal words, "Caution," "Warning," and maybe even "Danger" are not significantly different enough to tell the audience that a product showing the signal word, "Warning" is considered more hazardous than the product labeled with the word, "Caution."

I am sure that each of you will have your own ideas as how this could be improved. In my opinion, a change from our present system is badly needed. However, the change should not be made unless a system is devised which clearly distinguishes between categories and can be recognized and understood by the general public, without requiring extensive educational background.

We have one additional problem associated with the use of the current signal words. This, too, was referred to by Dr. Dewey. In addition to using them as signal words, often one of the same words is used as a heading above precautionary sections of labels. In many cases the word used in this section is different than a different signal word and this, of course, means that things become very confusing, and very inconsistent. It should be corrected.

One problem, if not our most serious one, is that we don't have a standard format for pesticide labels. I realize that it would be extremely difficult to develop a format that will speak to the problems associated with marketing the pesticides in various containers. However, we have a responsibility to all interested parties to have labels designed in such a manner that they know in what general portion of the label they can expect to find specific information; that is directions for use, precautionary statements, active ingredient statements, statement of practical first aid measures, etc.

I am not inclined to believe that a user should not read the entire label, but there are times that a user, physician, or other interested party should be able to go as directly as possible to desired information.

I believe the development of a standard pesticide label format is one of our most challenging jobs.

I would be remiss if I didn't refer to another area of concern. At the present time many agricultural pesticides which do not contain specific directions for aerial application, and which the Environmental Protection Agency states are intended for ground use only, are being applied aerially in many parts of the country. Unless it is made perfectly clear to the general public--which it has not been--that a product can be applied aerially only if it contains specific directions for aerial use, such labels should specify whether the product can be used for ground and/or aerial application. I am not saying that some of the products which now do not specify aerial application should not be registered for such use. But when this is done, in my opinion, additional labeling specifying equipment, nozzles, pressures, etc., should be established when aerial application equivalent is used in order to reduce pesticide drift to adjacent crops, areas of environmental concern, and any area that children or humans could be contacted.

Of course, with such extended uses, there should also be available data to insure that significantly increased residues do not occur. Inconsistencies between labels of essentially identical products and even inconsistencies on a specific label are also a very real problem.

For example, a label in the general section will state that "for airplane application, approximately 3 to 10 gallons of water should be used per acre are consistent with crop growth and good coverage."

While under the directions for a specific crop, some state, "Apply one-quarter pound per acre and sufficient water for thorough coverage."

Gentlemen, thorough coverage can be obtained without adding any water to the formulation in the opinion of many growers and applicators. Therefore, the last quoted statement will be interpreted by many growers and applicators to mean that LV or ULV application is permissible.

Again, I must say that I am not against aerial use of some of these products where data are available to support its use.

Probably the areas where we in North Carolina find most errors in EPA-approved labels are incorrect harvest limitation and maximum rates of application.

We often find labels that specify that a product may be used closer to the harvest date than allowed, or at an excessive application rate.

In addition, we also see many labels that do not contain various EPA warnings such as precautions regarding incineration of pressurized pesticide containers.

The pesticide industry and label reviewers through the various published interpretations and the EPA Compendium should be able to avoid omissions of this nature.

One additional very real problem is that certain insecticides are in our opinion no longer efficacious due to insect resistance, and yet are still registered by EPA.

For this reason, there must be a system between the States and the Environmental Protection Agency through which refusal to register the uses can be initiated at the Federal rather than State level.

I am aware that a State's determination of the degree of efficacy is sometimes challenged. For this reason, I feel that it is important to review such uses at the Federal level with input from various interested parties.

In my opinion, efficacy data on certain pesticides should be required at certain intervals rather than only when registered, if it is likely that a resistance is developing.

There are many other areas of concern to State pesticide regulatory authorities which cannot be thoroughly reviewed due to limited time. Among these concerns are attractiveness of certain pesticide baits to pests; cartoon-type characters used on labels which may result in children being attracted to the container when not kept out of their reach; pull-trigger type dispensers which evidently are a temptation for children to play with; level of education required to read and understand pesticide labeling; inconsistent use of trade names, common names, and chemical names on pesticide labels; occasional illegal residues being detected on certain crops or a different crop the next year, even when the pesticide was used according to the directions; concentrated, wettable or soluble powders which are likely to cause unnecessary dermal or inhalation exposure. Another area of importance is the updating of Section 18.

There are many problems which come to light as a result of the provisions in the revised FIFRA such as minor crop registration, use of pesticides against minor crops which are not listed on the pesticide labels, and of course, many more.

Let me say that bringing about proper pesticide labeling is not the only challenge facing the EPA. As a result of recent incidents, I strongly believe that a symposium of this nature is also needed to discuss pesticide containers, pesticide dispensers, warning agents, and coloring or discoloring of pesticides. I can see the same need for a symposium on mixing and application in that many, if not most, of our agricultural pesticide incidents or accidents occur during mixing or application of pesticides.

At this point, some of you may be saying to yourself that only a few pesticide incidents or accidents occur in your State each year. I want to make it perfectly clear that I do not in any way support those enormous pesticide incident figures we have all seen published so often.

However, I would challenge each of you to establish an organized pesticide incident reporting system through physicians in your State. If reports received are properly investigated, actions can be taken which are in the best interests of preserving those pesticides so badly needed.

I must say that I realize that we at the State level sometimes create an unnecessary hardship on many manufacturers to market pesticides in many States.

For this reason, I feel that the AAPCO should further strengthen its role in guiding States toward those objectives which are in the best interests of all concerned. There should also be even closer liaison between the States and the Environmental Protection Agency.

In other words, we at the State level definitely have our shortcomings, but I can honestly say that the action is at the State level when problems are encountered. We definitely are much more aware of local habits, cultural practices, attitudes, abilities, age, education, and other characteristics of the uses for which each pesticide is intended and must get involved in the pesticide registration process at the local level in order to screen out potential problems that cannot be anticipated at the Washington or regional level.

In closing, let me say that I hope my comments today will be taken only as constructive criticism. I think that I can truthfully say that EPA must secure additional experienced manpower if it wishes to correct currently recognized labeling deficiencies.

I know that I speak for the States when I say that a vast amount of experience and assistance is available from the States. I am also sure, as a result of my experience with representatives of the pesticide industry, that they, too, are more than willing to share their wealth of knowledge regarding proper regulatory control of pesticides.

I have enjoyed speaking with you today, and I do look forward to the discussion period.

Labeling Problems - Private Industry

CHANNING E. JONES
National Sales Manager
Garden and Home Products Division
ORTHO Division, Chevron Chemical Company

It is a pleasure for me to participate in this symposium as a member of private industry. I guess it is such a pleasure because I am so involved in the field of garden and home consumer usage and so my remarks will be mostly directed to that side of the subject.

Since I am most familiar with my own company and its problems, any references that I make to ORTHO are not designed as advertising or promotional activity in this room.

I am going to mention them to give you some examples of what our garden and home industry is accomplishing by familiarizing and training the public in the careful use of pesticides. Now, ORTHO has no lock on this activity. Most companies represented in this room have aggressive public training programs. I mention public training programs because there simply is not enough room on a label to get the message across.

Much of today's product label is directed to safety, regulatory, and industry requirements. Little room is left to emphasize the facts, uses, and benefits of the product to the user. By the fall of this year our labels -- and most of the labels of the people represented in the room -- will include the following: the EPA registration number, the company label number, the product number, the establishment number -- a bad word, establishment -- the batch code number, an emergency telephone number, and a list of chemical ingredients and technical terms which the good doctor this morning indicated on one or two of our labels maybe isn't put on there as clearly as it should be. There is an additional 25 to 30 percent of available space which is used for sometimes redundant and repetitious warnings and cautions.

Our industry has labored diligently to provide product training and knowledge to all levels in the chain of distribution. For example, we put out about eleven million copies of our garden book a year to stores all over the country in nine regional editions. Most of the companies in here do something similar. They are full of safety suggestions, product use information, and articles on environmental concern.

We have another book -- written by Walter Deedy, a great horticulturist. He used to be the editor of Sunset Magazine, one of the really beautiful magazines in America. This book is a classic on how to grow vegetables; it contains not a thing about ORTHO. We sold over

700,000 of these. I think all of us in this room should do more of this.

We also have a product manual which we distribute by the thousands. All companies put out one of these, in which they try to get across the main points that are on our labels. Every company does that -- for the clerks in the stores and for people to take home. We distribute about 400,000 of these. In addition to this, our company has held in excess of 300 night-time dealer meetings across the country. Our guys go out and work at night to put these meetings on. A hundred or more people come in. We buy coffee and donuts and try to tell them something about our product. What we say at these meetings is what is on our labels. We don't make any claims beyond that label.

Anyway, I am just trying to get across to those of you who don't know that the people dealing with consumers in America, the companies in this room, are doing a pretty good job of product training to users. In addition to the publications, we have about 25 garden films that we show to garden clubs and anyone else who will let us. I am sure that other companies in this room have done the same kind of work.

What I have been leading up to is we have so much important information to put on the label that we simply cannot get it on in a legible way. Remember, better than 50 percent of all garden and home pesticide products are purchased from self-service stores where there just aren't any clerks to tell you how to use the stuff.

This, in itself, indicates that there is not only a need for additional educational services, but also simple, clear and concise language on product labels. Also keep in mind that there is a vast difference between the agricultural consumer and the home gardner. It is important that all of us in industry and regulatory officials recognize the difference between agricultural and household pesticides and the labeling problems and the usage.

First, let's consider the farmer or the agricultural consumer. In the case of the farmer, there is no question in his mind as to the purpose of his purchase. The use is known. Knowledgeable people are usually available to assist him in his selection of the product. The reason for his purchase is economics: a good crop versus a bad crop or no crop at all. There is little chance if he reads a pesticide label that he will use it for a purpose he cannot identify. For the most part he is an experienced operator. He knows what results to expect from the varying conditions of use, and the type of application. The agriculturalist, the farmer, doesn't have 50 crops in one field. He has one crop as a rule, with one or two pest problems. For example, he uses guthion for the control of moths on apples. He uses 2,4-D for the control of thistle in his wheat. He uses Monitor for the control of worms in his calves. He doesn't have the multiplicity of use and the multiplicity of problems that the average homeowner has.

Now let's consider the household label. In many situations, the homeowners' pest problem is only identified by insect damage such as holes in leaves. In an average garden there are often many pest problems at one time. As I said before, somewhere in the neighborhood of $300 million is spent annually for pesticides in self-service stores. In this case, that label plus educational material which we have discussed become just about everything to the consumer.

Unlike the agriculturalist whose need is economic, the home gardner generally purchases a pesticide to satisfy other needs such as cleanliness, freedom from pests, desire for beauty, or just to keep up with the Joneses. Certainly no one is anxious to lose plants to pests, but most important is the appearance of the lawn, the size of the fruit, and the beauty of the blooms. That is what the homeowner is after. Most home gardners are simply not experts. Detailed technical terminology on garden home labels cause insecurity -- doubt -- and a feeling of aggravation in some cases. The home and garden user wants and buys products that cover a multitude of problems. Many consumers are not familiar with technical terms and the nature of pest problems. The home garden has many different crops, with many different pests. When they spray for aphids on roses, they want to be sure that they control those aphids. If there are thrips there, they want to control thrips and powdery mildew and the like. It is appearance and use that motivate the purchase of a garden chemical.

There are distinct differences between the needs of the agriculturalist, the farmer, and the homeowner. Thus, our approach to labeling must take these differences into consideration. Instructions for use must be more general and must be in simple language, in large type. Some studies have been undertaken to standardize the colors of product categories and to regulate print and background color. Easy identification and readable instructions should be our goal, but it is certainly not necessary to destroy or neutralize company and product identity in order to reach this goal. What is needed is more room to work with on the label and greater freedom from the use of words. Standardized agency language tends to lengthen the copy and discourage readership of the label.

To illustrate this, let's consider the warning and caution statements on a popular ornamental spray. As we go through each point in this caution statement, it will seem as if it had been passed from one person to another in the regulatory agencies, each one adding his or her own thoughts, resulting in the following problems:

One, repetitious statements and meanings; two, reams of small print which is hard to read; and three, physician information interspersed with consumer information. This all results in a discouraging experience for the user -- if he even takes the time to read the label.

Many users think cautions are designed by companies as a protection against liability; in fact some cautions can lead to greater exposure.

Here is a repetitious label: First: "May be fatal if swallowed, inhaled, or absorbed through the skin." Second: "Do not breath the spray mist." Third: "Do not take internally." Fourth: "Hazardous by skin absorption." Fifth: "Do not get in eyes, on skin, or on clothing."

One label says: "Use waterproof gloves and face shield or goggles when handling concentrate." This isn't practical; homeowners don't possess such equipment. Further, this label presents a legal complication by instructing people to do something which, in fact, is very difficult to do. This brings up a legal complication which falls to some degree within this category. First: "In case of eye contact, flush immediately with ----." This is an excellent suggestion and should be there. Second: "Wash thoroughly with warm water after using." This is an excessive statement in light of the previous instruction. Third: "Wash hands and face before eating." This is redundant. Fourth: "Food utensils such as tablespoons should not be used for food purposes after use with pesticides." Fifth: "Wash clothing with soap and hot water before reuse." This is excessive unless a spill occurs. Such statements create doubt and credibility gap between the company and the user.

One caution on the label I have never understood is the one that says: "Protective information may be obtained from your cooperative agriculture extension service." Protection against what? Is he going to give recommendations that are not on the label? This label is a real problem. There is not enough space on the label for all the registered uses. Thus, the statement seems to me as a statement precipitating many inquiries from consumers. In fact, we do get a lot of inquiries from consumers on this. The answers are extremely difficult. We have two people that do nothing but answer letters like this. We try to answer those letters, incidentally, the same day that we receive them. Sometimes our answer to the user has to be disappointing. It is not always the way it should be.

The foregoing warnings could have been stated in substantially fewer words and less print and less space. This would make a valuable contribution to the user and leave some space for good use directions. In contrast, the excessive verbiage and many similar statements which necessitates very small print, destroy the impact of this very important message. Much of this problem could be resolved by eliminating the EPA requirement of designating each species of insect and plant species, especially on small cans. Why do we have to name every one to the gardener? To him an aphid is an aphid. We don't need to designate a green pea aphid. If it kills, it kills a green pea aphid. Most of them will.

Let's get back to reality in pesticide labeling. Let's work together, all of us, regulatory agencies, environmental groups, pesticide manufacturers. Let's work together and make these golden rules of labeling. Let's get the message across in the fewest possible words, in the simplest language, and in the largest possible print.

Nobody can argue with me on that.

We can do this because this is really what the consumer wants and needs. So, unlike the presently confused and mystified consumer, these efforts will make a greater contribution towards a public who wants to read and they want to understand and they want to follow label instructions.

I thank you very much.

Labeling Problems - User Group

RICHARD E. FLOWERS
Flowers and Parker Farm
Tunica, Mississippi

I have been asked to discuss pesticide labeling as seen by farmers. It is not my purpose merely to criticize either the chemical industry or the government's requirements. Rather, I'd like to report to you how I, as a farmer, look at labeling. It may be that many other farmers share my views; and judging by farmers I've talked to about pesticide labeling, I think many do share them.

Also, I'd like to say that I do not think the ultimate answer to developing better pesticide labels lies in further government requirements or restrictions. I think the American pesticide industry is doing a terrific job in producing chemicals for agriculture, and there is no reason that private industry cannot get together with farmers to improve labels. If labels are to be dictated by government, I greatly fear that more confusion will result.

With these observations set out at the beginning then, let me proceed to outline some of my opinions about how pesticide labeling could be enhanced for greater utility, safety, and convenience.

In our area, we generally treat our crops with pesticides according to recommendations of Mississippi State University and the Mississippi Extension Service. We get these recommendations many weeks before planting time and we study them to decide which chemicals will be needed, the quantities we will need, and other features of our chemical use for that year. We do not try to remember what rates we applied last year or other specific details, because our state agricultural authorities may be relied upon to keep us up-to-date on the latest scientific information. Their recommendations change from season to season to reflect new knowledge from their experiments and from farmer experience.

We do know which chemicals we like and the compounds that have worked well for us in the past.

Then we compare state recommendations with labels to compute our dosage rates. We know Mississippi State will never recommend anything that is not allowed on the official label, but we still read and familiarize ourselves with pesticide labels, for application rates and safety precautions. We like to see the full information on antidotes, for example, in case we do have a chemical accident. I personally do not know of a single accident that posed a serious danger to anyone, but we always treat every chemical with great respect because we know these chemicals are dangerous.

Dutch Parker and I are partners in farming operations in the northern Delta of Mississippi. He told me when I was preparing this talk that the most serious accident he could remember in our area was when a neighbor applied 2, 4-DB to his cotton and that hurt only the cotton. It did not pose a hazard to people or the environment.

One of the reasons I think antidote information should be on every label is that because so few accidents occur, our physicians usually are not familiar with antidotes for farm chemicals. If there ever should be a serious accident on our place, there might be a dangerous time lag between taking the victim to the doctor and full treatment while the physician called around to decide on the best antidote.

Some chemicals do have good antidote information, as well as other instructions for treatment in case of accident. There still are some needs in this area.

Another need I see is for clearer and simpler directions for use. On herbicides, for example, it is universal for rates to be given by state extension services and by labels on a broadcast basis, yet most labels do not specifically point out that per-acre rates are for broadcast application. This is an area of confusion and could be corrected by a chart that shows how to break down the dose on bands of various widths. One manufacturer of a popular soybean herbicide does have a chart on the container showing different row spacings and different band widths, with dosage conversions. This is very helpful.

I think the most important part of a pesticide label is the part devoted to use instructions. Even with state extension recommendations and the chemical maker's dosages, more help is needed with mixing and applying. For instance, a favorite term on many labels is "sufficient water" to cover a given acreage. If the label gave examples for ground rigs and for aerial application, it would be helpful.

Another area of confusion is the difference between amount of technical material and amount of formulated product. A chemical dealer in Mississippi tells me farmers call him often to clarify whether a certain application rate refers to pounds or gallons of branded product or quantity of technical material.

Mississippi's official state recommendations are always given as pounds technical material to the acre, but labels are not usually as clear. I think the chemical manufacturer should spell out the exact dosage, if necessary giving it both as quantity of his product and quantity of technical material.

Then the various concentrations of materials poses further obstacles to clarity. In a chemical dealer's warehouse a few days ago, I saw for myself just how the terminology varies on several labels. I saw about five different concentrations of MSMA from one manufacturer and in each case, for that manufacturer, and for all the others I saw, the actual concentration, given as pounds technical material, was on the bottom of the label in very small type.

Competitive considerations cause some of this problem. For example, one maker of a MSMA formulation may call six-pound material H.C., standing for "high concentration." Another may use H.C. for a 6.6 pound material. Maybe both are correct, but it is another source of confusion for the farmer.

I suppose most farmers know the initials E.C. stand for emulsifiable concentrate and W.P. stands for wettable powder, but maybe labels should clarify these. I recently saw a label on an insecticide we use on our cotton that said "water miscible." My dictionary says this means something that is capable of being mixed, but when I put this compound in my spray rig, is it necessary to recirculate it to keep it suspended, or is it fully soluble? These are some of the questions raised by such obscure terms.

From a scientific standpoint, I assume "miscible" is the only correct term; otherwise the chemical maker would have labeled it concentrate. Still, the question is raised about exactly what is to be done. Can some of these terms be avoided on labels? I hope so, because I think the average farmer may be more miserable than miscible with this kind of chemical jargon.

Another label I saw was for a DSMA formulation, but the formulator called it DMA. Now farmers are accustomed to referring to many chemicals by the commonly accepted initials, so when you leave out one letter, you are telling the farmer it is something different from DSMA and this does not help clarity. On the label, of course, the full chemical name was used, so technically, that compound was not mislabeled, but nevertheless, it was confusing.

There are also formulations of MSMA where the name of the product designates the equivalent concentration of DSMA. For example, one herbicide label I saw just the other day contained the numeral "12" in the brand. This means that the particular MSMA formulation in that container is equivalent to 12 pounds of DSMA per gallon. To me, and perhaps to a lot of other farmers, this is confusing. Maybe some farmers would rather compute their dosages as if they are treating with

DSMA, then use the liquid MSMA for greater ease of mixing and application. But actually, it's probably simpler to compute your arsenical needs in terms of MSMA to begin with, then use an appropriate concentration of MSMA.

I think the concentration should be in big type on the next line or very near the brand name, in the case of arsenicals and perhaps other chemicals being produced in various strength levels. But again, this is not a matter for law or government regulations, but an area for chemical manufacturers and users.

Type size in general is important, although I realize that so many things are required on labels that it's difficult to get them all in and using larger type would increase this problem. Certainly, contrast between the printing and the color of the label is important. One label on a popular and very effective cotton insecticide has black lettering on a dark blue background and it's hard to read.

One farmer in Tunica County, Mississippi, told me that certain products packaged in four or more containers within an outer pasteboard case do not have enough information on the outside of the outer carton. This means he must open up each case before loading the product onto his truck, to check labels on the inside containers. If the label was printed on the outside carton, as well as on individual containers inside, it would enable him to confirm the exact formulation without opening every case to double-check the contents.

Another area is in chemical compatibility. If some chemicals are compatible with others and if a mixture is legal, this should be so stated on the label. And in cases where other compounds specifically are not compatible or allowable this should be stated. I feel that farmers may be tempted to mix more chemicals than is best for safety of their crops or the environment if these precautions are not taken.

I also think the toxicity level of a material should be clearly stated on the label. If a compound, like most herbicides, for example, is relatively less toxic than a phosphate insecticide, this should be pointed out. As I said a few minutes ago, we treat all agricultural chemicals with great respect. But still, if the actual toxicity is graded, it would let the user know just which chemical deserves much greater care and it would avoid the "cry wolf" effect of a blanket warning.

At this point, I'd like to say that I realize there is only so much space on a label and a lot of things to be printed on it, but I am simply outlining what I feel are areas for improvement. We may not even get all of them on pesticide labels, but sooner or later, we must begin to find the priorities and just leave something off. Let me continue a few more observations about pesticide labels.

Accepted common names, where they exist, should be used on all pesticide labels. I realize firms spend millions of dollars on advertising and promotion to extoll the qualities of their brands, but still, in the interest of clarity and safety, all labels should show the common name of the active ingredient in addition to the brand name. If a product's primary active chemical is diuron, it should say diuron, regardless of the trade name or brand. And maybe the proper agencies or organizations can get together and come up with a list of common names, or initials, to designate a specific chemical, regardless of brand name designations. This would be very helpful to the farmer.

Now, I'd like to mention some proposals I've heard and that I hope are never carried out. For example, I understand it has been proposed to do away with the skull and crossbones to mean poison. I think there was some talk of putting a picture of a snake on some labels. This would be doing away with a universally understood symbol and would take a re-educational process of many years to publicize the fact that the snake picture means poison.

The skull and crossbones symbol already is understood by everyone, including persons who cannot even read and write, and I strongly urge that this symbol continue to be used with no change.

Another change I've heard discussed and do not favor is color coding of pesticide containers to lump all herbicides together under one color, all insecticides in another color, and so on. I think this is a bad idea because all herbicides are not alike, nor are all insecticides alike.

When we need one particular kind of herbicide, that's what we need, not just any herbicide. And the same applies to insecticides. Perhaps work is needed to develop better color schemes for pesticide containers, but overall color groups are not the answer, in my opinion. It seems to me such a color code would discourage label reading and make everyone assume too much when he grabs a pesticide container and dumps it into the tank. The individual brands are distinctive now and I strongly urge that each company be allowed to design his containers following its own freedom of expression.

The same comments also apply to specific wording. Sooner or later, if chemical companies are allowed to evolve their own label wording practices, they will come up with directions and notices in farm language and many of the problems I have discussed today will disappear.

Even so, I do not think the label is the place to carry a manufacturer's advertising message, and by and large, advertising now is at a minimum on most pesticides. By the time a farmer gets to the label on a pesticide, you may assume that he's sold on the product or he wouldn't be reading the label, so he should be the target of advertising somewhere before the label-reading process.

Extravagant claims of performance, for example, do not belong on a label. It's helpful for the manufacturer to spell out the purpose of a chemical, of course, such as control of certain weeds or insects in a specified crops, but performance claims belong in the company's advertisements rather than on the label.

Some of the problems with labels are slowly being solved by the increased tendency toward aerial application and bulk delivery. This is outside the scope of my subject today, but I think it's worth mentioning that the time may come when farmers rarely see labels of certain common pesticides. The bulk dealers and aerial applicators will be concerned with labels and presumably they are licensed and otherwised restricted to assure competent use of pesticides.

In such cases, there may be a need to distribute safety, antidote, and accident treatment information in some other way in case a farm worker is accidentally exposed to a pesticide during aerial application.

Some pesticides bear complete information on container disposal and others do not. Certainly, every label should have this information. The disposal instructions should spell out clearly how to decontaminate the container, then how and where to dispose of it. I know local laws have a bearing on this, but some disposal information could be included. Some firms still do not include disposal data, though. Still others do not have enough information.

One that I saw last week,outlines decontamination procedures including rinsing with water and "an alkaline detergent" before disposing of the container in an isolated area. I'm not sure which detergents are alkaline. Presumably, some of them are acid. In any case, the manufacturer could offer more help, it seems to me. If he doesn't want to single out any one brand name for detergents, maybe he could list several, as the dishwasher manufacturers do.

And yet, the official recommendations of the National Agricultural Chemicals Association outline a rinse-and-drain procedure before container disposal that does not include the detergent rinse step. So what does the farmer do? Is it necessary to use the detergent? If so, which one? I raise these questions to illustrate the decision-making process that goes on in every field where powerful chemicals are being used. Farmers want to practice absolutely maximal safety. They are not looking for shortcuts and I think their chemical safety record is proof of their sincere attitude toward safety.

I also think it is apparent to many farmers that some of the statements on labels are disclaimers for the protection of the manufacturer only. That's a wise precaution, of course, and I don't blame any business for trying to protect itself from legal action. Nevertheless, if the label is more user-oriented, it will be read more often with greater understanding and this should help the maker of the chemical, the user, and the environment.

I think there has been too much emphasis on possible misuse of farm chemicals of all kinds. As hard as chemicals are to get and as expensive as they are now, you are a lot more likely to find farmers using too few and too little than too many and too much.

When you are paying many dollars for a gallon or two of a chemical and it will go only so far, assuming you can find the chemicals you need, you are not going to double up on the rate. You are going to read that label and you are going to check with the county agent and the state cotton specialist or soybean specialist until you understand clearly how much you are supposed to use. Then you will use only that amount. And you are going to use it the right way, because if you don't, you'll be throwing money away. Economic pressure is a good safety incentive.

To summarize my feelings about pesticide labels, I believe most chemicals now are adequately labeled and I know it will never be possible to have every conceivable need covered on any one label. With the observations I have made, labels would be more user-oriented and thus, of more help than presently, it seems to me.

But I think there has been a lot of progress in a fast-moving field and I believe the chemical manufacturers are responsive to the needs of their customers. I look for more improvements in the future.

I would like to thank the Environmental Protection Agency for asking me to share my thoughts with you and I would like to thank the members of the chemical industry for the wonderful chemical tools they are providing for farmers. I would not want to be farming today without these chemical tools and I think this feeling is universal among farmers of my area.

Working together, we can improve pesticides and pesticide labels to benefit every one concerned. A lot of people may not think farmers are as concerned about the environment as they should be, but the facts show that farmers have suffered very few serious accidents. After all, we not only make our living from healthy soils and environments, but we live and raise our families in the same local environment where we produce our crops.

Labeling Problems - Environmental View

James P. Rod
Assistant to the President
National Audubon Society

Ladies and gentlemen, I am here partially to represent the National Audubon Society, partially to represent myself, and partially to represent the environment in general.

For some of you who may think that we are still little old ladies in tennis shoes, I can assure you The National Audubon Society has grown considerably in the last decade. We now have about 325,000 members in this country and several hundred overseas. Most of our members are organized into better than 320 chapters in cities across the country, and in 300 affiliated clubs in many other cities across the country.

It is true that we are one of the oldest and one of the largest environmental or conservation groups in this country. It is also true that we did have our beginnings 75 years ago in the field of bird protection. At that time we were interested in protecting egrets and herons from hunters who killed birds on the nest and used the plumes to decorate their hats or sold them to millinery companies who sold the hats with the plumes on them to women.

Back then there were not many pesticides to worry about, very few in fact. Most of the environmental problems that we were concerned with then were simple. Someone was shooting egret. Someone was doing this or doing that. Things were easy to cope with.

For many years we were interested primarily in bird protection. Twenty years ago, or even longer ago than that, we began finally to see the whole picture of the environment. It is a world that is good for birds, and we have discovered it is also going to be a world good for people and vice versa.

To that end we broadened our base considerably and broadened the scope of our educational work throughout the schools and with civic groups all over the country.

We have a joint scientific staff that we have established with the Massachusetts Audubon Society and several people from Johns-Hopkins and MIT. The field of pesticides is one in which the National Audubon Society has been interested for a long time. Many of our staff people have done some of the original work on DDT and some other persistent pesticides. We were involved in some of the classical work long before

Rachel Carson published her book in 1962, Silent Spring. We are still engaged--we find it hard to believe--in fights, mostly verbal, with some segments of the pesticide industry and some scientists who do not really see our point of view. This is fine. It gives us something to talk to them about.

We cannot all agree on everything. There are some who believe even today that DDT is nearly non-toxic and nearly harmless and doesn't last for more than a week or two when sprayed or dusted here and there.

We have some evidence to the contrary, but that is beside the point. We think we know what we are talking about, at least we hope we do when it comes to pesticides.

It is not amusing to me but interesting to see these learned people, scientists, agricultural spokesmen giving a great deal of thought all day long today and tomorrow to something which, in most cases, is even printing on a can. A $10,000 bill would not incite this much interest among this wide a segment of people all over the country. Anyway, we are here to talk about pesticide labels. More often than not they are pieces of paper stuck on a can or a bottle or a bag or a box. They are on there for a reason, naturally, to tell us what we need to know when we want to use the product and what we need to avoid when we are using the product.

We feel, as do many environmental groups, that many times--far too often--the pesticide label is not fulfilling the function that we believe it should. I did not attend all the morning session, but I have been interested in the comments by the speakers this afternoon. I find, much to my amazement, that we are not too far away from many of the viewpoints in industry and agriculture.

That is encouraging. The preamble to the amended FIFRA Regulations makes a point that was not made in the original regulations, or the proposed rules. It is a basic problem recognized by the Congress that, despite extensive labeling and use instructions, pesticides were being misused on a large scale. Some pesticides were being applied at rates many times the label concentrations to combat insect resistance. Applicators were being injured by acutely toxic pesticides because they did not use the prescribed safety measures or misunderstood their proper use.

Spray tanks which had been filled with pesticides were washed and indiscriminately drained. The environment was being unknowingly and unnecessarily exposed to toxic and persistent chemicals.

Label regulations simply were not providing the necessary control over some pesticides to prevent their improper use and resultant environmental damage.

This is the point we tried to make all along. The onus cannot and should not be placed on the label alone. The label should be and can be a useful tool for all of us to use when considering the application of various pesticides.

Before going into the label itself--and that will not take long because a good label, as has been pointed out many times here, simply should be clear and plain and concise and easily readable and say it all once and stop there, let me make a remark on something else.

I was interested just the other day in reading a magazine ad for a new Shell line of Aerosol Pesticides. I bring this up because on some of the slides we saw earlier, we saw the warning "Keep Out of Reach of Children." We know that does not work too well. There are something like 500,000 children poisoned every year in this country in the home, not all pesticides, of course--medicines, floor wax, all sorts of things. Several thousands of those children die, not because they could not read the label, but because the pesticides were within their reach.

The point is, kids are going to be able to get at these things no matter what you do with them. I get upset when I stroll through a department store, as I did this last weekend, and see many pesticides--among them chlordane, a very toxic one, in glass bottles with screw metal tops any child can open.

Just the fact the label says "Keep Out of the Reach of Children" does not mean they are going to be kept out of the reach of children. That is why the advertisement for the Shell Aerosols I saw so impressed me. The Aerosol container has on top of it a completely closed cap. The only way this can be opened is if one slides his fingers up under the cap and finally reaches the spray button.

The point is young children with short fingers cannot reach the button. It is that simple. You do not have to necessarily keep it out of their reach. Once they get their hands on it, they cannot use it. If it is literally impossible for them to open it, or spray it, or spill it, or break it, you do not need to worry about that. That is why I am so distressed when I see so many insecticides and pesticides and rodenticides in glass containers, in metal containers, with easily-removed lids, in plastic bags, or other containers children can open easily.

It is fine to have the warning on the label, but we very much would like to see more thought given to making the containers childproof to begin with. This has been taken up and been fairly successful by the by the medicine manufacturers. Aspirin bottles and all sorts of things these days have lids that are at least difficult for children to remove. Once they figure it out, of course, the protection is gone. If the lid is impossible for that child to remove until he is 12 years old, the problem is nearly solved in itself.

Another point that bothers me--and I know it bothers many others--is the fact that, as was pointed out this morning and this afternoon, better than 50 percent of the pesticide purchases are made in department stores and grocery stores, supermarkets, etc.--by homeowners.

I have noticed in what appears to me to be an alarming number of cases that pesticides are on shelves much too close to food products. It is very true that many people buy their rose dust and their tomato dust and this and that in the supermarket. I think that the pesticides, and in fact all these dangerously toxic chemicals, should be in a section of the supermarket--say between the light bulbs and the dust mops and a long way from the food.

Maybe we could even go a step further to surround the shelves with the display of all the garden chemicals with a red ribbon or something and maybe even a poison sign. Maybe that is overstating the case for insecticides. But I believe these things should not be near the food. They should not be easily accessible to children. Many times in the grocery store, bottles of chlordane--right on the bottom shelf--will be found in eight ounce, twelve ounce, and sixteen ounce bottles. They can easily be broken in the aisle or opened up by a child.

While we are in the supermarket and on the subject of labels, I want to mention two other things, "Right Guard Deodorant" and "Ivory Liquid Dish Washing Detergent." I was in Texas about six months ago looking at rattlesnake roundups. During part of the snake show, some of the people wandered around spraying the rattlesnakes with "Right Guard Deodorant" -- spraying them very heavily in the faces. They claimed they did this for a couple of reasons. One, they said this deadens the heat sensory bite of the rattlesnake so it is not too apt to strike, and two, it just plain calms them down. Well, if you read the label on the back of the "Right Guard" container, it says, "Intentional Misuse Can Be Fatal or Harmful." These snakes were being poisoned to one degree or another. The point is that this same warning is found on many pesticide labels: "May Be Fatal. May Be Harmful if such and such is done."

I think we have subjected the consumer to this warning so often and so many times before that he may not pay as much attention to it on the pesticide as he should. We will all agree chlordane in liquid form is probably more toxic and dangerous than "Right Guard Geodorant."

If we are going to agree that many of these insecticides are so toxic that the warning, "May be Fatal, May be Harmful," is not enough, then, conversely, we may say, "So What? My underarm deodorant says the same thing. I don't know anybody who has died from that."

Why can't we say on the label, "This Product May Kill You." Put it in great big red letters, and then go on to say, "Or it Certainly May Make You Very Ill If You Don't Follow These Directions Below Explicitly."

These things can kill people. If we say you will be killed or you may very well be killed, instead of -- you might be harmed if you do not use this just exactly right, we might get the point across.

I said I wanted to mention "Ivory Liquid Detergent." One of our Audubon people about a month ago phoned me and told me with considerable interest that she had discovered "Ivory Liquid Dishwashing Detergent" -- in the little plastic spray bottles -- to be one of the most potent and effective insecticides she had ever run across. There are no labels, of course, cautioning us not to misuse "Ivory Liquid Detergent." She discovered spraying or dripping this right out of the bottle onto insects of many kinds, and spiders, too, causes them to die -- just like that -- they do not squirm or wiggle or keel over or wander off. It is instant. I did not believe her. I tried it myself. By golly, it worked. It works faster than most insecticides I have sprayed on insects. I don't know why it works. I don't know what is in "Ivory Detergent," but by golly, it is an insecticide.

John Dingell has made a point this afternoon about the symbol on the insecticide label. I believe, myself, that the skull and crossbones is a good symbol and should stay as the symbol. I do not think the rattlesnake or any other snake ought to be the subject of a symbol. I happen to like snakes. That is just one of the reasons.

John Dingell has suggested going a step further. This indicates one of the basic problems with the pesticide label: the same label has to be read and understood by a wide segment of the people all around the country or even outside the country. There are greatly varying levels of either idiocy or sophistication, depending upon the person reading this label. I think that the label has to be comprehensible to the lowest common demoninator among the possible users. Many people buy these products that are, frankly, illiterate. Many people that can read are not well-educated and do not get as much useful information from a label as they should.

John Dingell has suggested additional labels, additional symbols. For example, a dead fish, or a dead bird next to the skull and crossbones, or a stream or lake or a pond with a big red X through it. Maybe this will help get the point across in addition to spelling out on the label that birds or other non-target species may be killed. The skull and crossbones is the useful, easily understood symbol. It could well be that most people would associate a dead bird or a dead fish with a red X through it with a skull and crossbones and think, Gee, maybe I had better read this more carefully, if, indeed that pesticide is that toxic.

I want to comment briefly on some of the comments made this afternoon. Dr. Wells said that standard labels should contain standard use rules. The labels must be standardized, some way, somehow. Maybe the entire label can be standardized; but some of the useful information on the label has to be standardized.

Mr. Flowers made the statement then that he believed that the government interference with the label and with the wording on the label is just going to lead to further confusion. We will all admit that is true in many fields of the federal government. But, in this particular instance, we are going to have to standardize the label. We are going to have to do it through symposia like this, through input from many varied groups and individuals and consumers who can get together and study proposals and eventually communicate these warnings the same way all the time.

Mr. Jones, whose vegetable book I have been using in my garden for sometime--incidentally, it is a dandy one--mentioned training the public in the proper use of these pesticides. I think that is a good point. He is the one that made the point that 50 percent of the people or more buy their pesticides in supermarkets, garden centers, or drugstores, and really do not know how to use them or they don't pay enough attention to the label.

We are all bad label readers. How many people knew "Right Guard was harmful or fatal? Not very many.

I do wish to take exception to a couple of points Mr. Jones made. He is worried about repetition and redundancy on the label. It is better to have repetition and redundancy than to take the risk of not informing the consumer. It may be that saying something twice or three times will simply turn people off; but we have always thought at National Audubon, if it is worth saying, it is certainly worth repeating. Some of these warnings are not meant to be taken lightly. They are serious warnings. If people stumble across essentially the same warning two or three times as they read through a label, maybe it will stick in their minds.

The very commendable statement on a label: "No Adverse Effect on the Environment," is an oversimplification because, even we at National Audubon Society know, as all of you do, there is going to be some adverse effect on the environment no matter what insecticide you use. We are never going to achieve any pesticide or rodenticide or fungicide or insecticide or any other kind of a "cide" that has no adverse effect on the environment.

It is written into the federal regulations that we want to minimize the risk of adverse environmental impact, but we are never going to eliminate it completely. The National Audubon Society has long had a reputation of compromise if the benefits far outweigh the unavoidable environmental bad effects. We will go along with it. We always have. We have been inviting wool growers out west for years on coyote control. We do not say don't kill coyotes. We say, let us not poison them all. If there is an individual coyote doing damage, let's kill it, and kill it humanely. The same thing is true of pesticides. We recognize they are necessary. They always will be. There are going to be some adverse environmental effects. We just don't want avoidable adverse effects.

Mr. Flowers mentioned that economic incentive is a good safety measure. I am not so sure I agree with that.

It is true that in many cases when people pay good money for pesticides, especially when buying them in bulk, they usually will not overapply them. If you have a thousand acre farm and this stuff costs you a few hundred dollars, you are going to put it on as thinly as possible to do the job.

On the other hand, I'm afraid many private individual consumers look at their rose dust or their tomato dust or their aphid killer and say, "Gee, a teaspoonful does not sound like much, maybe I had better use a half of a bottle. This costs 69 cents; if a little bit is good, a lot is better." I don't think there that we have the economic incentive we might have in agriculture. We have to be careful about application rates on the label.

Dr. Wells mentioned the most crucial communication of all is to the user. We have to agree with that.

Mr. Buffalo says he has reviewed around five thousand labels a year. That is a lot more than I have ever looked at. I think that's a lot more than anyone in the National Audubon Society has ever looked at. We agree there are far too many inconsistencies and problems with the pesticide label throughout the market. Mr. Buffalo also believes that EPA is going to have to tighten up their guidelines. We agree with that, also.

I have in front of me some comments made by our staff. It was asserted by industry that adequate labeling would take care of the problem. Although labeling is currently inadequate in many cases, improved labeling, we believe, will not solve the problems associated with misuse, overuse and accidents; skill and knowledge, not labels, prevent accidents. Certainly, certification of applicators was intended by FEPCA to assure high standards in the responsibility of those applicators having access to those dangerous pesticides.

We want to say it again, if it is worth saying, it is worth saying more than once. The onus should not be on the label. It must not be on the label. The label is and can be a useful tool and should be viewed as a useful tool. We think that all necessary information should be on the label in clear, readable plain English -- and perhaps in some other languages, too, if there is room on the label for it. If there is not, let us look into this business of more symbols: The skull and crossbones is good but perhaps some others will be equally effective. At least people might see those if they don't take the time to read the entire label.

The warning or caution on the pesticide label should include not only the hazard to human health or the potential hazard to human health but the potential hazard to non-target wildlife.

As you well know, there are many pesticides and insecticides on the market today, and some that are no longer so widely used, such as DDT, that do not have any target species. They will kill everything, or nearly everything. They will disrupt or disarrange breeding cycles of a lot of other things, even if they don't kill it.

We have to be very careful about non-target species. I disagree that all the target species should not be listed on the label. They should be. The consumer should be instructed to use the insecticide only for those species that are his targets, and should additionally be aware that many non-target species might be affected.

Our concern is with the safety of the general public just as much as it is with the safety of the general environment, because the general public is part of the environment.

We believe there has not yet been a study of how the general public, including farmers as well as other heavy users, actually use pesticide labels. Has anybody done a study on how people use the label or what they do with it, or how much attention they do pay to it and what it all means to them? This is a prerequisite for deciding what will have to go on the label. No matter how good that label is, if the people don't read it, and won't read it, it is no good to us or them or the industry or anybody else. It has got to be read.

We have been talking about overuse and misuse of pesticides. There is a strange phenomenon that has been discussed and explored by many people, that is, using pesticides in lower than recommended dosages. This is often necessary in coordinated pesticide control programs and projects.

The draft regulations say that use of any pesticide in a manner inconsistent with its labeling shall not be permitted. That means that you can't put it on in any less quantity than recommended; it means you can't overuse it, too.

This is actually a problem. It may not sound like one, but it is. The question of whether an integrated pest manager can legally recommend use of pesticides at lower application rates than are called for on the label was raised by Dr. Rosemary Von Runker at the meeting of the Hazardous Materials Advisory Committee. EPA officials present at the meeting were unable to answer the question to the satisfaction of Dr. Von Runker and the rest of the committee. This was noted in the Pesticide Chemical News. As far as I know, that particular controversy hasn't been resolved. Is it legal to use less than the prescribed dosage? Apparently, it is not. What will happen if people do?

I want to talk about one other thing while we are talking about nontarget wildlife. We were talking about snakes a few minutes ago. In the mail from the Texas Audubon people I received a little flyer on snake stock. This is a reptilicide, one of the first and maybe the only one that has ever come on the market. I talked to some of the EPA people over the break and none of them have ever heard of it. It is certainly not registered.

It is manufactured in Odessa, Texas. It not only repels snakes and all other reptiles but kills them on contact. This stuff is to be trickled around your camp site or sprinkled around the garage to keep snakes, presumably venomous snakes off the premises. It not only repels snakes; it kills them on contact. If you know anything about cold blooded vertebrates, snakes in particular, you know they are hard to kill. They don't succumb to a lot of things that would quickly do in a warm blooded animal. I don't know what is in this reptilicide. The little picture on the xerox copy I have is too blurred for me to read the active ingredients. Never once in this flyer do they mention poisonous snakes or venomous snakes. They say it is harmless to children and pets, guaranteed as completely effective as a repellant and a reptilicide against snakes of any size or variety.

I don't want to get into the ecological ramifications of snake usefulness, but in most areas of the country it is recognized that venomous snakes are not much of a problem at all. On the contrary, the useful species, which far outnumber venomous snakes, are very useful.

This stuff, when you sprinkle it around your dairy, your stables, and everywhere else they recommend, will solve what was until now a constant problem with snakes. How many of you farmers and homeowners have had a constant problem with snakes and need this? I told you I spent a few months in Texas a few months ago looking at the rattlesnake problem. Some Texans will admit it is not all that bad. Let me mention that I was near Webb Air Force Base. There have been more people killed in Howard County, Texas in the last 15 years from airplane crashes between light planes and sand hill cranes than have been killed by snakebite.

Jim Dewey of New York said this morning that few people actually read the labels, and if we need a reappraisal of what we are going to use the label for, Dr. Dewey made a good argument for using the label again as a useful tool. It cannot be the only answer. Many of the problems that we now face and will continue to face--problems of accidents and misuse--will be eliminated when the restricted use pesticides will be applied only by certified applicators and/or with specific regulatory restrictions, which we don't have now.

General use pesticides ought to be only those which are generally and genuinely safe to use in the home and around the home, given the current pattern of misuse in most household uses of pesticides. Not everybody uses even the general use, fairly low toxicity pesticides the way they should.

This we believe is going to be the best way to solve many of the problems that have been brought out today. If we can get certified applicators to use the restricted use pesticides and make sure the only pesticides that get into the hands of the housewife are the general use pesticides and -- all those are equipped with easily readable, distinct, legible labels--we will all be a long way ahead.

Thank you.

LABELING PROBLEMS - MARKETING COMMUNICATION VIEW

ALVIN S. SCHECHTER - PRESIDENT
SCHECHTER & LUTH, INC.

I am president of Schochter & Luth of New York City. Although some of the publicity for the symposium you may have seen described my company as an advertising agency, I must tell you we are not. Rather, Schechter & Luth is a communications design firm. By that, I mean that we specialize in developing basic concepts for telling people what products are, product names, communications strategies, and package design. We are also deeply involved in other areas of marketing communication, such as corporate identity, corporate image, trademarks, logo types, and so on. As a result, my discussion will deal with the advertising and marketing view of pesticide labeling, rather than the advertising agencies' view of this subject.

From looking at the program for the last day, I guess that we are somewhat unique in this program in that most people are concerned with those aspects of labeling which tell you how not, when not and why not to use a product. We are hopefully going to be talking about motivations on why to use and buy the product.

While Schechter & Luth has grown up on the consumer side of the business, our viewpoint as marketing men has also been shaped by our exposures to companies on the industrial side. These clients include such household names as Exxon and Eli Lilly. On the consumer side, Johnson Wax, and Warner-Lambert are among our clients. So we have a foot in each camp through exposure to the marketing, packaging, and label problems in both the industrial and consumer sectors.

In our presentation today, I will attempt to focus on issues which pertain to both sectors, although we may use one or another examples to make our points. I understand you are a very diverse audience consisting of both corporate marketing people, and regulators from a variety of governmental agencies. What I will have to say will pertain to both groups, although from by background it should be clear that I represent a marketing point of view.

As marketing and government people, it comes as no revelation to you that your functions are often at odds with one another. This is typically the case today where the role of government in many walks of life is increasingly regulatory in nature.

In the pesticides industry, which has its own special problems, there is a particular sensitivity when government and industry find themselves in conflict. From the marketing viewpoint, pesticides are unique in that the problems they pose can be approached, dealt with, but never resolved.

Misused, these products are extremely dangerous to both humans and the environment, and how an individual product performs is highly dependent upon factors such as application, the skill of the user, how the product is diluted or mixed, the equipment used to distribute it, and so on.

With performance, the vital factor to the farmer, the manufacturer is constantly under pressure from ever-increasing competition. As more and more new products are developed, packaged, and introduced, the opportunity to formulate unique broad spectrum products is sharply reduced. More and more competing products are taking on a parity with one another. That is more or less similar to the consumer marketing field. The result is increasing the importance of the marketing function.

The proliferation of products is no doubt confusing to the farmer who is bombarded with a seemingly endless array of advertising messages in his specialty publications. In this competitive situation, some manufacturers may feel justified in minimizing risks and emphasizing benefits in their packaging and promotion.

Regulatory agencies may feel this situation calls for tighter controls. Government and users are both concerned with how the label can be planned and regulated to minimize risks of misapplication. Both want to eliminate misrepresentation and human hazard.

The government's prime objective, we think, is to eliminate risk. On the other hand, the marketing man wants his label to sell his product and to help protect his position in the marketplace. Clearly, there must be a certain amount of natural antagonism between these two points of view.

These conflicting objectives go right to the heart of this country's distribution system. This is, of course, not a new problem. It is surprising that this symposium on pesticide labeling is the first of its kind. Ideally, such meetings should have begun years ago and should be held on a regular basis. The fact that we are here today is encouraging, and so we have the opportunity to jointly air problems and see if we can find adequate solutions.

In my view, you have to start considering these problems long before you get to the design of a label. For example, as a producer, how do you begin to develop a basis for a sound business philosophy which will produce results that will be good for both the environment and your company? Without such a philosophy and the resultant business strategy, it is difficult to be innovative, let alone creative. This is where a company like ours often enters the picture as marketing communications people.

Here are some key elements in developing a sound business philosophy we have worked out for some of our clients. First, identify with the market, be it the farmer, housewife, or institution. Know the users' viewpoint. Be aware that being in this industry involves a long-term commitment. As such, your company must have the resources necessary to meet extensive product development and testing costs. This, unfortunately, but necessarily, eliminates the small operator. Second, you must be dedicated to product innovation, even though this is increasingly difficult. By definition, innovation and uniqueness are rare and can almost never be achieved unless there is dedication to excel. Of course, the more nearly unique your product, the more you can afford to have it stand alone. As the few unique products diminish in number, there is an increasing tendency to promote the corporate image. Third, be creative. These factors have to be boldly communicated; this can be accomplished best and most efficiently and at lowest unit cost through the creative function.

Now, what should the communications strategy be in reaching your audience? One method is through unique product names. Spectracide, for example, attempts to convey a suggestive marketing message through both the name itself and the graphics surrounding the name. Lasso is a colloquialism with no specific meaning. Newer products with names in this vein are Mowdown, Prefox, Prowl, and Roundup. There tend to be a lot of sound-alikes around a successful product.

These new names are so new that they have yet to establish franchises for themselves, although they have the potential to accomplish this, given sufficient promotional support. They are typical of the new type of name being increasingly used as the suggestive names have been exhausted and the acronyms become increasingly confusing.

These acronyms, or coin names, are the most difficult and confusing kinds of names for the farmer. According to a recent article in "Successful Farming," here are acronyms of a few insecticides which are either new or have been approved for new or changed application: Disiston, Diphonate, Furadan, Pencap, Temic. The same article lists these new herbicides: Basalin, Basagran, Cobex, Igran, Kersh, Crenite, Lexon, Rotate Sunitol, Surflan, and Rolban. Probably at least 90 percent of all such names cannot be distinguished by the farmer from other similar sounding names. Paradoxically, however, two of the most successful names in marketing in this industry are Treflan and Aatrex, both acronyms.

Another factor in the proliferation of new names bombarding the user stems from variations in changes in the formulation of this product. Like a look at this ad for Lasso, and this ad for Lasso-2. While, as we said before, Lasso is a good example of a colloquial name, Lasso-2 is a different product, a new granular formulation. The farmer can't help but be confused by the way the package presents this variation.

This leads us to another aspect of the communications strategy, the use of the corporate endorsement as a means of gaining user intention and recognition. If new product names are meaningless until they establish their own franchises, they can be helped over their hurdles by relating to the export name. As such, we can expect greater use of corporate names and corporate enforcements in the future in this industry.

To effectively accomplish a corporate enforcement the producer has at his disposal first the trademark, which might be suggestive of high technology, or product characteristic; and secondly, his trade dress or common look which when applied to his product serves to extend the confidence of the corporation of that product. If you take the famous Shell mark, commonly associated with this multi-national corporation's gas stations, and apply it to agricultural products' packaging, this would convey to the farmer that the product has the backing of a major international company.

Earlier I mentioned the Exxon Chemical Company. That program established a format for the presentation of agricultural chemicals packaging, using the elements just discussed. We utilized a system in that program for identifying types of pesticides and complete formal standards for identifying labels in many, many communities around the world. Standards such as were established; we recommend as increasingly appropriate for the industry as a whole. To be sure that there are no misunderstanding or misconception of these standards, they do not mean rubber stamp conformity. In no way would a competitor's product have to adhere to similar standards that would reduce all products to look-alikes. We are really referring to standards that have to do with the caution and hazard information.

On the subject of standardization, let's come forcefully to grips with the natural antagonism between marketing and regulatory objectives. Ours is a highly individual competitive universe wherein each product is striving for recognition. With truly unique products increasingly rare, any element of distinctiveness is indeed a plus. Such an element can be a unique name, or a unique color and package format, or a unique advertising concept. It's been suggested also that certain colors be standardized throughout the industry to identify specific pesticides. If this were to happen, it would reduce the corporate impression, and such a development would, in our view, be unreasonable and unnecessary regulation, unless of course, the standard colors for the particular statement happen to be your corporate colors.

Standardization which serves to curtail any basic marketing tool has got to be a hindrance to marketing objectives. This is the point in which the interests of the regulatory man and the marketing man clash. Each should understand the other's position. As regulation has long been a part of this industry, it remains for those of use in marketing.

to somehow establish a unique and memorable product image within this regulated market.

For regulation is not on the wane obviously. Rather regulation is growing more stringent with the passage of time. Each new requirement by a regulatory agency further reduces our options. In the past, the military used this method to systematically remove individuality when it was deemed necessary that sameness prevail. There are those who would no doubt like to see the same situation prevail in our industry.

The regulatory position in the case of human drugs is well-known. Medicine should be marketed under generic names. Perhaps the chief governmental advocate of this school of thought concerning the drug industry is Senator Nelson of Wisconsin, who has proposed before the Kennedy Committee hearings that all prescription drug advertising for doctors be outlawed. Well, today's meeting is obviously not the proper forum for discussion of this issue. But it may be instructive to consider pesticides for a moment from a similar viewpoint. The crux of the matter as it pertains to this industry is whether pesticide product packaging should have any marketing function at all.

We believe it can be demonstrated that there are some compelling reasons why pesticide labels should have a marketing function and why it is in the interests of everybody here to protect that function. In our society, that is in terms of what the world as our consumers, both industrial and retail, perceive it, the unique trade dress of a label helps to establish the function of the product in the users mind. It is expected of products which are from different sources are expected to look different. As pesticides vary considerably as to the purpose and methods of applications, customers need all the guidance they can get. In this regard, the marketing functions serves to communicate also the corporate identity of the producer, expressed through his trademark or corporate house mark. This represents both security and responsibility. It serves the good guys who have built marketing equities over the long-term and stands to enhance their position through immediate recognition of their products by the farmer. This, of course, is basic to the trademark way of doing things. By denying the marketing function, regulators restrict the producer by preventing him from achieving the rewards that would accrue to him from product quality and history of responsibility. Keep in mind that such a restriction would also affect the farmer who makes a commitment and feels that he makes a relationship every time he buys a pesticide.

How then can marketing and regulation be meshed so that free enterprises and safety both prevail? As a marketer, I propose an approach that leaves the marketing man with most of his available options intact while improving the communication of the hazards and risks to a point which should more than satisfy the regulatory position. It is a solution where if neither side wins, no one has to surrender unconditionally. From the marketing man's standpoint, it recognizes the inevitability of recognition. Our proposal simply gives recognition to the grave concern expressed in all quarters about the caution statements which must appear on our labels. Let these caution statements be completely described so that there is no latitude whatever for diluting the warning and thus giving the appearance that one product is less dangerous or more safe than another. In other words, let's remove the handling of caution statements or hazard statements from an area of competitiveness between companies.

This is what has been done in the cigarette industry with a great deal of simplicity. It's on a very simplistic basis. The problems presented to the cigarette industry, as one that works within that industry, are relatively simply compared to the pesticide industry. I do propose that ground rules call for a bolder standardized statement of risks. This reduction of options for the statement of caution would eliminate the possibility of making one product appear more safe than another by perhaps reduced sizes, color contrast, etc., in that area.

Such mandatory controls will serve to add greater clarity to these statements. They will be in keeping with the recent court ruling which held, according to Business Week Magazine, that -- I quote -- "standard of clarity, applicable to a package label, is not what it says to the reasonable consumer, but what it says to the ignorant, the unthinking, and credulous."

For better communication and clarity, we also propose the introduction of verbal symbols for human caution and environmental caution which it can be clearly demonstrated that, the skull and crossbones has a long history of being a key to making people focus on that attention. There are somewhat less frightening symbols, which would make, we think, the applier and user, be it the farmer, farm helper, the applicator, or the housewife take a look and understand where to look. Such symbols will better focus user attention on text, which can also be standardized as to location, size, sequence, and even language. They may also play a role relative to federal interagency discussions in which a need has been expressed for an agreement, on uniformity of labeling between the agencies concerning tests used to develop safety and language statements.

In making his proposal, we would like to offer a caution of our own to the EPA. When new rules are promulgated, it should be done with greater sensitivity than has been shown in the past by some regulatory agencies, particularly with regard to the design function. Otherwise the label could be unecessarily damaged from a marketing standpoint. We certainly hope that would not be the result of our recommendations today. It is imperative that the integrity of the basic trade dress of the package be maintained during the process of standardizing the hazards' statements. Let me add quickly that no more than this area of the label should be standardized. The other elements such as trademark, format, colors, topography, should be left free of any constraints subject only to marketing needs and objectives. A good example of this is color. We feel that color could easily be flexible to allow for adherence or conformity with a given company's trade style. There are a certain amount of people that are colorbind in any case, so that color should not be a key to this kind of statement.

If this proposal should eventually be adopted, the marketing function would be allowed free creative rein to work with trademark, colors, names, and topography to develop labels that communicate successfully, yet minimize use and misapplication. This means that good communications would be the result.

Improving Label Communications

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I will depart slightly from my prepared text today because after hearing the presentations yesterday, I decided to modify my text. I didn't want to overkill some points.

I would like to thank the Environmental Protection Agency for inviting me to participate in this symposium today. Pesticide labeling is a field of great interest to me. As many of you know, I have accepted an appointment as the environmental scientist for the City of Milwaukee. My interest includes an interest in the quality of life, noise levels, air quality, water quality. I can say that our goal today is the preservation and protection of human lives.

I will start my presentation with one basic premise, and that is in the end we are writing pesticide labels for the pesticide user. Let's keep that in mind. We want him to know how to use the pesticide safely.

With that premise in mind, I will present and interpret some findings of our study on improving the communication adequacy of pesticide labels sponsored by the Pesticide Regulation Division, U. S. Department of Agriculture, in 1968. Please remember that the data I am presenting to you will be at least four years old. I will share with you some of the rationale that went into the study we conducted. I will also present a lesson in typography. Dr. Evans, who worked with us very closely on the four-year study, will present the second phase of our study on motivating pesticide users to read pesticide labels as sponsored by the EPA. We are both grateful for the opportunity to be able to be associated with this research project. We received tremendous cooperation from the pesticide industry and our sponsors.

I would guess that when you hear the term "pesticide label," many of you will think of your own respective organization's pesticide labels. That is expected.

Since there were thirty-seven thousand registered pesticide labels at the time of our study, we decided to describe what we thought was the average pesticide label. We systematically selected a random sample of pesticide labels from the thirty-seven thousand and wrote for those labels, either through the USDA, or directly to the industry. We received very good cooperation.

I will present to you some characteristics of what we found was the average mode of pesticide labels. I think this is a unique study. To our knowledge, no study of this kind existed at that time. I don't know whether such a study has been done since.

Now, what does the average pesticide label look like? In terms of physical size, the average pesticide label is smaller than eight and a half inches by eleven inches. The labels we studied ranged in size from two inches by two and a half inches -- that small -- to thirty-seven and a half inches by thirty-two inches. You can guess that is a fertilizer sack with some insecticidal properties. Of course, the rest of the labels are between those two extremes. The average pesticide label has 487 words printed on it. If a speed reader reads them, it would take him one minute to read them. A speed reader reads about six hundred words a minute. The shortest label had twenty-one words, while the longest label had two thousand three hundred words. Again, divided by four hundred or six hundred, it would be about four or six minutes depending upon how fast one reads. The longest label had 2, 195 words of cautions and directions in its information.

Those examples indicate the great diversity and sizes among pesticide labels. This information is important because the Act, FIFRA, requires certain minimums in terms of label contents and how the label information should be printed.

Think: Two and a half inches by two, compared with thirty-seven and a half inches by thirty-two inches.

The average pesticide label was fairly difficult to read. It had a reading ease score of 57.03, which means that it was good only for people with at least 10 to 12.9 years of formal education. In 1971, this comprised sixty-seven percent of the U. S. population. The reading score, of course, is an index determined by word length and sentence length. In general, the longer the sentence, the less understandable it is and the more complex it is.

While we strongly recommend that label writers test readability of their labels, there are many shorthand readability formulas available, and it does not matter which formula is used because the results of the readability tests are normally highly correlated.

Interpretation Number Seven of the regulations for the enforcement of the Act says that the directions for use must be stated in terms which can be easily read and understood by the average person likely to use the pesticide. Given diversity of the pesticide labels, it would be safe to say that not all of the more than thirty-seven thousand pesticide labels we had at that time were addressed to the same types of individuals. Hence, we must ask ourselves the question: What are the characteristics of the average person most likely to use our pesticides? In other words, who are we communicating with? This may sound academic to you, but it really has some practical implications. I will come back to this point later.

Now, how legible must the average pesticide label be? Different people have defined the term legibility many different ways. Among the terms are speed of reading, following directions, comprehension, and preference. There are many factors that influence the legibility of print. For example, type size, indentation of paragraphs, color of print and background, and type form.

We compared the average pesticide label against the legibility standards that we found in our research and/or review of literature. Here is what we learned: First, one-point leading -- the difference between lines of print -- was the norm, thirty percent, for cautions and directions for use. Another twenty percent were solid with no leading at all. Our review of literature indicated that two-point leading was best for most type sizes. One-point leading is no better than when there is no leading at all. A large number of pesticide labels can improve on leading. Second, the small words, "Caution," "Danger," "Poison," and "Warning," in the front label were generally written in type sizes that were legible, 80.5 or larger. Third, twenty-three percent of the headings, that is, directions for use, were printed in ten-point type. This type is acceptable. However, sixteen percent of the headings or directions for use, were printed in 7.5 or smaller. Thirty percent of the texts of directions for use were printed in seven-point type or smaller. Five labels had texts smaller than 6.5. According to legibility studies, six-point type is highly illegible and eight-point type should be the smallest type size allowable.

Among the three type sizes that we discussed and studied, that is, six point, eight point, and eleven point, readers definitely favored eleven point type. Six point type was least preferred by our readers. Other studies have long shown this, and what we did was provide further support to that long known fact. When we deviate from eleven point type, therefore, let us realize that we are cutting out the legibility. Eighty percent of the labels did not indent paragraphs. Legibility studies indicated that paragraphs should be indented for increased legibility. Of course, there is a modification of savings. When we indent paragraphs, we tend to use fewer words.

Black print on white background was the color combination on all elements of the pesticide label. This combination has a very good brightness contrast. Our review of literature indicated that brightness contrast between background is the most important factor when it comes to color, and that the greater the brightness contrast between print and background, the more legible the text. We recommend dark prints on light background. There are some good color combinations such as blue on yellow, green on white, red on white, and others. We should avoid combinations such as violet on blue, red on green, and white on black. I won't comment on export colors at this time. It might be possible that color combinations might be attached to trade name or company name or something like that. As I said, violet on blue, red on green, and white on black have poor brightness contrasts. Hence they have poor legibility.

If editorial considerations demand that words be printed in small type, printed in red, red is the attention color. It may be effective to use bolder type to focus attention on key words like caution, danger, directions, and dosages or application rates, such as pounds, pints, times a day, and so on. The requirement of printing poison, danger and the skull and crossbones in red and all caps on contrasting backgrounds for highly toxic pesticides appears to have solid empirical support.

The skull and crossbones on chemical labels, because of their extensive usage through the years, have come close to being the traditional symbols for highly toxic pesticides. Let us consider this before we replace them with other symbols that have yet to be tested. I know there are many symbols being considered to replace the skull and crossbones. Let us be careful. We would have much learning or unlearning and reeducating to do if we replaced the skull and crossbones now; unless more reliable evidence is presented showing a better alternative, we should continue using the skull and crossbones. This point was made by a gentleman yesterday, Mr. Flowers.

In summary, special attention must be given to type size, leading, indentation of paragraphs, color combinations of print and background, and type form in improving the legibility of pesticide labels. The specific type sizes, leading, et cetera, which I've mentioned, should be viewed as guides and suggestions. They are not recommendations on this point. Based on what we have learned, we should also study the problem of label size, but since our research was not addressed to that, we cannot reasonably recommend that as a direction for work. Instead, it might be a good idea to study from the standpoint of benefit-cost analysis. What do we gain and what do we lose? In the end, how do we stand?

Our laboratory experiments on legibility also show that the label most rapidly read was not the most preferred nor the best understood. There was a time when many people thought that the label that was most rapidly read was the most preferred and best understood label. Our research did not show that. Therefore, we should choose one definition of legibility, and I suggest that we define legibility of pesticide labels in terms of label preference. Label preference is partially influenced by such factors as type size, heading, color combinations, and so on.

If we do that, we won't separate the physical attributes of the label from the human factors. Our preoccupation with legibility is due to our interest in seeing that the literate reader is able to read the label. Let us help him see clearly what he is supposed to read. We should also present him with a label that he would want to read.

How understandable is the pesticide label terminology? We also studied readers' comprehension of fifty label terms. We found in our systematic random sample that farmers in Champaign County, Illinois, comprehended most label terms. Our conclusion that pesticide label terminology was easy to understand was contrary to the conclusion reached by two earlier studies of essentially the same terms. Most of the studies, including ours, came out with somewhat similar statistics on the proportion of respondents who understood the specific terms. The difference was the interpretation of those terms. I think we were more relaxed on this point. However, it is fair to say that the comprehension of pesticide label terms should not be taken for granted.

For example, while most label terms were easy to understand, the following terms were very difficult to understand: germs, herbicide, controls, fungicide, systemic insecticide, and inhalation of mist. Each of these terms were understood by at most fifty percent of our sample; the lowest was twenty-eight percent. At this point, a word of caution: There is a strong temptation to search for substitute words and phrases for the terms that are difficult to understand. The word "hazardous" has been substituted for "dangerous." Some people may understand the term "hazardous" but not "dangerous." Then again, other people may understand the term "dangerous" but not the word "hazardous." The point is that it is very difficult to find many words that everybody can understand.

Accepting this, we devised a different approach with this rationale. We know that there are people who scored very well on the pesticide label terminology tests, and that other people scored very poorly on the same tests. Our next step, therefore, was to identify these groups who scored high or low in this test. To guide our research we asked ourselves what factors influenced our readers' ability to comprehend pesticide label terms. The first is education. The other is attitude toward the pesticide label.

The relationship we found is that the higher one's education and the more favorable his attitudes toward the pesticide label, the more likely he will score highly in the pesticide label terminology test.

Knowing this, we could modify the question about the questions we asked earlier. Remember, we asked with whom we were communicating. Now we could ask what were the educational characteristics and the attitudes toward the pesticide label of the average person most likely to use our brand? Those are very important questions. I am suggesting that if your pesticide user was highly educated and had favorable attitudes toward pesticide labels, perhaps you don't need to worry that much about the ability to understand the pesticide label. The likelihood of their reading and understanding the pesticide label is relatively great. Conversely, the chances of their having pesticide accidents will be relatively small. Remember, however, that I said perhaps we should worry very much if our pesticide users are less educated and have very unfavorable attitudes toward the pesticide label.

I have confined my comments to the label communications, partly because what we researched is graphics or non-verbal communications in labels. I strongly suggest that the pesticide industry and the Environmental Protection Agency look seriously at this.

Non-verbal symbols may be a helpful procedure for communicating with illiterate, less educated, or non-English-speaking pesticide users. There are thousands of people in this category. I know this from a study done by Penn State University, bearing Jim Bonin's and John Ritch's name. I think this kind of study is a step in the right direction, but I think we are a long way from the last word in the matter. In fact, I don't even think we are close and we should continue our studies.

I said earlier that we write labels for the users. What do our readers say about the pesticide labels? As part of our study we also asked our respondents to react to a number of statements about the pesticide label. Here are some of the results: First, forty-five percent of the city residents and thirty-nine percent of the farmers agreed with the statement, "The cautions and directions on pesticide labels are written in such small type that one needs a magnifying glass to read them." Second, thirty-eight percent of the city residents and thirty-four percent of the farmers agreed with the statement, "The pesticide label is designed mainly to sell or advertise the product." Third, forty percent of the city residents and thirty-seven percent of the farmers disagreed with the statement, "The pesticide label contains all the precautions and directions one needs to know in using the pesticide safely." Next, forty-six percent of the city residents and forty-five percent of the farmers agreed with the statement, "Pesticide labels contain many scientific terms that are difficult to understand." Last, forty-five percent of the city residents and thirty-seven percent of the farmers agreed with the statement, "Pesticide labels put too much emphasis on brand names and too little emphasis on cautions and directions for use."

Gentlemen, I am not saying these statements are true. But I am reporting what these respondents of ours agreed with. To them, those things are true. Many actual and potential pesticide users have unfavorable attitudes toward the pesticide label. The lesson, I think, is that we may make the best label very legible and very understandable, and still come up short, because the users may not read the label. We realize that even the best people can only do so much. Other routes of consumer education should be used in communicating safety methods to pesticide users. This is where Dr. Evans' report will begin.

I thank you.

Improving Label Reading Via Motivation

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Good morning.

We have the label and its potentials. We have goals of public welfare. We have goals of marketing and goals of the user of pesticides. How do they fit together?

The experience I will talk about seems to dovetail nicely with some suggestions yesterday about moving beyond the label itself and our disucssion this morning about innovative marketing communications. This label may be complete and accurate, easy to read, and understand; but even the best label cannot communicate unless and until it is read. Under actual conditions, the pesticide label is still at the mercy of the user. Many persons do not read labels on the pesticides they use. That fact has been documented by a number of studies, and probably the experience of each of us.

Sometimes the conditions do not encourage label reading, even if the user is inclined to do so. These facts of life lead us to look outside the label for ways to stimulate readership as a means of promoting safe and effective use of pesticides. We did so in two steps during 1970 to 1972.

First, we asked what is being done now to encourage the reading of pesticide labels? Who is trying? To what audiences are these efforts aimed? By what communications media? With what persuasive appeals? Second, we asked how effective are these efforts?

We approached the first question about what is being done through several related efforts. We conducted a nation-wide search for communication materials that encouraged pesticide label reading. That search resulted in locating 496 printed pieces from public and private agencies dating back to 1957, plus 143 electronic pieces, information pieces, from public and private agencies. These are films, slides, and other electronic types of communication.

In addition, we analyzed the content of pesticide advertisements in four selected magazines. The question was this: "To what extent do pesticide marketers use their advertisements in popular magazines to encourage label reading?" The magazines in this judgment sample included Better Homes and Gardens, and American Home, both of which, of course, are urban oriented, and Farm Journal and Progressive Farmer, both rural oriented magazines. We analyzed all issues of the four magazines from 1968 to 1970.

This is what those studies revealed. The greater burden in promoting the safe use of pesticides was being borne by various educational and public agencies. More than half of the printed materials were from public sources. More than ninety percent of the electronic materials were from public sources.

Of the 639 communication materials that we analyzed seventy-eight percent were in printed form. These were articles and logos, advertising pieces, posters, balloons, bulletins, stuffers, folders, exhibit materials, sales, and technical brochures. The rest were films, tapes, disks, and slides.

Most of the printed materials were aimed at the professional audience, including farmers and other commercial users. On the other hand, most of the electronic pieces were aimed at the nonprofessionals, the homemakers, the weekend gardners, and other non-commercial users.

Seventy-one percent of the printed pieces had either positive or negative appeals to encourage label reading. Others used no appeal except advertising.

Our earlier review of literature had indicated that the statement, "Read the label," that is, the unsupported imperative statement alone, is not sufficient to influence attitudes or behavior.

Among the printed pieces, the most often used positive appeal was to safety. Twenty-seven percent of the printed pieces appealed to safety.

The appeal to economy or profit through the proper use of pesticides ranged next, twenty-one percent, followed by appeals to good health and freedom from injury, totaling fourteen percent. Environmental contamination as a negative appeal accounted for only ten percent.

The electronic items or pieces that we looked at emphasized many of the same positive appeals, and often in combinations: Good health, clean environment, and economy. Profit got less emphasis in the electronic materials used than in the printed materials used. The electronic materials used negative appeals concentrated on combinations involving death, injury, contamination, and financial loss. Ninety-two percent of the printed pieces told the individual reader to protect himself from pesticide accidents. Very few of the appeals included the protection of family members, friends, pets, or similar value to others.

Our review of literature suggested that it is fruitful and helpful to include many references to appeals. The electronic items we looked at were more inclined to do so. About sixty percent of the electronic materials included appeals to protect other people, or pets, or the environment.

In advertisement, pesticide marketers made limited use of their space in the four magazines to encourage label reading. Only one out of three pesticide advertisements encouraged pesticide label reading. Only two percent of the words used in these advertisements mentioned label reading, about seventeen hundered words out of a total of nearly more than seventy-two thousand. Advertisers used smaller type to encourage label reading than to promote the product. The largest type size of the body copy of the pesticide ads in this sample was usually eighteen point. The smallest was usually eight-point. On the other hand, the largest type size of the read-the-label messages in these ads was usually ten-point and the smallest was usually six-point.

Let me summarize briefly our recommendations connected with these content analyses. First, a joint interest involving a larger industry role can increase the total amount of attention devoted to encouraging pesticide users to read the label and follow the directions. The level of information effort found in this study seemed modest in relation to the scope and importance of pesticide use. Second, urban residents should be primary audiences of pesticide education programs, because they stand to profit most from such campaigns. Third, messages to encourage pesticide label reading should contain active appeals, negative or positive, and in combinations. Fourth, appeals should be directed not only to the individual readers but also to those others they value. Fifth, public and private agencies concerned with pesticide safety should consider using interpersonal communication through local groups, for example, as well as efforts through the mass media to encourage pesticide label reading.

Moving then to the second question I asked at the beginning: Will it work? That was the next question. It was vitally important, it seemed to us, and a question that would be difficult to answer, because if our proposals had any merit for those who might spend thousands of dollars to try, they should stand up under trial. Our decision then was to set up such a trial, a formal field experiment.

Here is how it worked: A one-month mass communication campaign was conducted in Quincy, Illinois, to improve audience knowledge of and attitudes toward the pesticide label and the safe use of pesticides. The City of Decatur, Illinois was the matched control community, where no information campaign was conducted. Interviews in both communities before and after the campaign determined what effects, if any, the campaign had in terms of audience knowledge and attitudes.

Our previous research, plus a review of guidelines for information campaign funding directed our efforts in the test community. Television, radio, newspapers, and direct mail were the channels of communication that we used in the campaign, which took place during May 1972. Local stations and newspapers donated time and space as a public service. The cooperative extension service was identified as the source of this information.

The central theme selected for the campaign was a slogan: "Take a Look and Live." It appeared not in the headlines, but as a tag line in all of the pieces. Two complete news articles were published by the local daily newspaper during the month of the test. In addition, five public service advertisements appeared in the same papers. The two local television stations used a set of four, one-minute television public service announcements. Usage on these television spots totaled eighty showings, according to the logs, or roughly three a day during the campaign. Three local radio stations in the community used the set of four one-minute public service spots which actually were the sound tracks from these TV spots. The usage of those totaled one hundred forty-two airings, or roughly five a day. Direct mail pieces went to all heads of households in Quincy at one-week intervals during the month.

You can anticipate some of our campaign goals. We wanted to inform the audience about specific dangers of misusing pesticides, to inform the audience about three important elements of the pesticide label, the directions for use, cautions, and ingredients statement, and the functions of each, and to develop favorable attitudes toward the pesticide label and the safe use of pesticides.

How did we measure results? Five dependent variables were used to measure possible effects of the campaign. Two of these variables involved levels of knowledge; one of which we called general knowledge, or knowledge that most people would have had regardless of the information in the campaign. Other questions tested knowledge that the audiences could answer correctly only if they were exposed to this particular campaign. Then we used three kinds of attitude variables: One measured changes in attitudes about the use of pesticides, the second measured attitudes about the safe use of pesticides, and the third measured attitudes toward the pesticide label itself.

Our dependent variable involved behavioral intentions of citizens; specifically, we asked respondents to state how they have used or intend to use the information from this campaign.

In our pre-test, we expected no significant differences between the two communities in any of these variables. However, on the post-test, we expected the Decatur community to show no significant change in any of the variables; however, we espected the Quincy community to show significant changes in campaign-based knowledge, in attitudes towards the pesticide label, in attitudes towards the safe use of pesticides, and in behavioral intentions. Beyond that, we expected post-test measures in Quincy, the test community, to exceed those in the control community.

This is what happened.

Before the campaign, the respondents from Decatur and Quincy did not differ in the dependent variables which we measured. This was expected. After the campaign, one-fourth of the post-test respondents in Quincy had been exposed to the information campaign.

We observed significant differences between respondents of the pre-test and the post-test persons interviewed in Quincy, the test community. The post-test group in Quincy had higher average scores in campaign specific knowledge, in attitudes towards the pesticide label, and attitudes towards the safe use of pesticides than did their pre-test counterparts in the same community. These were part of the critical results. They were expected. On the other hand, we observed no difference between the pre-test and post-test measures in our control community, Decatur. This was also expected.

How about differences between post-test measures in the two cities? Quincy showed higher scores than did Decatur in campaign-based knowledge and behavioral intentions, which was expected. No other differences were observed between the two groups.

In summary, let me return to the question that sparked this effort: "Will it work?" The answer in our opinion is: "Yes, it can." Efforts to encourage label reading and the safe use of pesticides can work if we are aggressive enough. We can make headway in our shared goals if we apply what we know now about pesticide users and about effective communications methods. We see no signs of insurmountable psychological barriers in this method. Money is a limiting factor, but probably not the key factor. You probably would be surprised at the low level of budget involved in the preparation of this educational material. The key in our judgment rather is commitment: the willingness to set goals, work together, use solid guidelines wherever we can find them, and tap the wealth of ideas and resources available among all of us who care about the safe and effective use of pesticides.

Thank you.

FEATURED ADDRESSES

THE HONORABLE MARK ANDREWS
Congressional Representative - North Dakota

Thank you. It is certainly good to be with you this morning.

As many of you know, I am a farmer who comes from a small town in North Dakota called Mapleton. Back in the '30s when things were tough, things were so bad that we could only have one rat in our city dump, and he had to go to a neighboring town called Casselton to get his meal.

Bringing that up as background, I would like to visit with you for a few minutes the way a member of Congress, who sits on the committee funding the Environmental Protection Agency, and all the consumer functions of our government, as well as the Department of Agriculture, sees it at this particular point in time.

Of course, it is a pleasure for me to speak to all of you on this subject of pesticide labeling. As you know, in the hearings before our subcommittee, I have attempted to examine some of the problems in the pesticide area. I certainly hope that in yesterday's and today's sessions you have had and will have the same opportunity.

When Congress passed the 1972 amendments to the Federal Insecticide, Fungicide and Rodenticide Act, one of the most important changes was making it unlawful for any person to use any registered pesticide in a manner inconsistent with its labeling.

Because of this provision, the label now becomes the cornerstone of the regulatory process, and Congress intended that labeling be that cornerstone. We certainly need an effective and strong labeling program in order to assure the safe and effective use of pesticides in our environment. In order to accomplish the goal of safe pesticide use, proper regulation and consumer attention to label instructions must be utilized, but caution in regulation is also needed.

It doesn't make much sense for EPA to ban a pesticide for agricultural application when the only misuse or accidents caused by the pesticide is from consumer application of the pesticide in the aerosol spray cans obtained from the corner grocery stores.

Industry often fails to provide for noticeable, informative and effective labeling for the housewife on the small aerosol spray cans. In my judgment more protection and stronger regulations are needed for the consumer who uses very limited amounts of pesticides, but where there is a maximum amount of danger to exposure.

If this is not done, farmers and professional applicators who need large volumes of pesticides to control insects and disease will have to pay the price because of a few consumer mistakes that could have been corrected by both government and industry action in providing proper labeling.

As a farmer, I cannot underscore enough the need for farmers to have all of the available pesticide tools so that he can minimize crop damage and control the insects, weeds, plant diseases, rodents, and other pests.

Advantages to livestock producers, of course, are also important. But in addition to agriculture, we have to remember the pesticide benefits to preservers of our forests and park lands, as well as housewives who need pesticides to control beetles, ants, and other bugs.

With more than 32,000 pesticide products made from one or more of 900 chemical compounds that are currently registered by the EPA, it is natural that there are increased risks and hazards in the use of pesticides by government, consumers, industry, and agriculture. These risks to human health and the environment certainly dictate a stringent government pesticide program, so we can insure a strong and a safe environment.

But this responsibility and strong feeling that most people have to preserve our environment must be pursued reasonably.

The EPA has to be careful that it doesn't over regulate and overcontrol our farm producers when attempting to minimize the risks and hazards of using pesticides.

Noone wants to go back to a wormy apple; noone wants to see the cost of production go up and up. But increased production costs will continue if effective and safe pesticides are not available.

Before slapping extensive and over-reaching re-entry standards, protective clothing standards, and certification standards for application on our Nation's farmers, the EPA would do well to note the first and most avid environmentalists this country ever had were farmers.

Long before the environmental movement in this country began, farmers were protecting our soil by planting tree belts and grassways in coulees. The track record of the Soil Conservation Service in the Department of Agriculture and their efforts in this area speak for themselves.

Actually, I myself am a third-generation farmer on the same land that my grandfather started out on in the territorial days of Dakota. Our son, who is now married and living in a trailer house on the same land, will be the fourth generation.

As farmers, my son and I want to make sure that we haven't adversely affected our land and that the fields are indeed more fertile and better, and that we have the wildlife that we need to support.

One of the pride and joys of my son's life is the fact that we have 12 or 13 deer that happen to live and browse on a river that goes through our land. We planted more trees and provided more pasture and grazing land to take care of these deer, and the ducks and the prairie chickens. We also hope a few pheasants will begin to become re-established.

So farmers are environmentalists. However, in order for this country to benefit from their environmental experience, the farmers must have an input and communication avenue into the decision making process of the agency that is regulating their activities. Otherwise, the farmer-grower will be placed in such a situation that his operations and ability to function on a daily basis are hindered.

In addition, the farmer has to have an understanding of these programs and the need for them, in order for these programs to work. You can have all the labels in the world, but if the farmer feels that the labels are a bunch of "hocus-pocus", dreamed up by a group of impractical theorists some place in the dark of night and then put on a can, the response to those labels isn't going to be all that good.

In other words, if we are to have an effective regulation program, we have to have the understanding and the comprehension of the people who are regulated. They have to feel they are being given a fair shake.

It is fine, of course, to include trade groups, the pesticide industry, and the environmental interest groups, but you must include the actual user. How many farmers were consulted on the proposed regulations? And I mean real farmers who know the practicality of a proposal? How many commercial applicators who live with the need for a sensible and safe use of pesticides on a day-by-day basis were contacted?

This problem of communication between the agency proposing the regulations and the persons who are going to be regulated doesn't just include the farmer. It includes all of us, whether we represent the State or the Federal government, industry, environmental groups, or agriculture.

What we need is frank communication between the opposing, if you want to use that word, or the varied interests, if you would rather use that word.

As a Congressman, I am often put in a position of a middleman and I am dismayed by the lack of candor sometimes on all sides.

Industry is reluctant to attack the problem head-on because they fear retaliation by the governing agencies or a destruction of their working relationship.

This type of attitude accomplishes nothing, and I urge government and industry to lay their chips on the table and resolve their differences now before the actual users are placed in even more emergency situations than they now face.

There are many experiences which we can and must learn from. Take, for instance, the herbicide 2,4,5,T, which was used for preservation of our rangeland and forest lands. Because of a deficient manufacturing process, some batches of this herbicide produced by industry contained the contaminant tetra-dioxin in large amounts, which was teratogenic in nature.

Now what do you do? Do you suspend the chemical immediately? Do you take the 2,4,5,T, away from the people being asked by this Nation and by the consumer of this Nation to produce more beef?

Industry certainly was wrong by not clearing up its manufacturing process and making sure our environment and health care were not harmed.

But EPA only compounded the problem by jumping in and initiating cancellation proceedings that are still underway. They are now conducting an exploratory hearing, as you know.

Meanwhile, industry claims they have cleaned up their manufacturing process whereby 1/10 of one ppm of tetra-dioxin is present in 2,4,5,T, which is in line with the President's Advisory Committee Report on this herbicide.

The point I am trying to make is that we now have an action-reaction situation that would have been handled better if EPA had contacted industry and said "Clean up your manufacturing process, not only in the case of making 2,4,5,T, but in the case of many other chemicals." If they found dioxin in 2,4,5,T, what have they found in MCP or 2-4-D or any of the other chemicals now on the shelf that are being used?

Why cancel a herbicide if the problem isn't the herbicide itself but rather a contaminant resulting from deficient manufacturing? These are the questions that I think need to be answered.

Besides the communications problem, the EPA also has to streamline their procedures so that labeling and registration applications are handled much more expeditiously. Delays and bureaucratic red tape facing developers seem insurmountable.

A more expeditious labeling clearing procedure is needed for several reasons.

First, newer and more effective pesticides to meet additional demands won't be developed if delays in clearance are not eliminated.

One industry source I have had contact with indicated it would now take from 3 to 4 years to obtain the required data needed to register a label for the chemical endovan, or SD-29761, which is used to control wild oats in wheat.

This particular chemical, endovan, is already being used in several foreign countries, including our good Canadian neighbor to the north. If it is registered abroad, why can't data developed in its foreign application be used here for domestic clearance?

Although it is true that producers of endovan have not yet applied with EPA for registration, action taken recently by our executive branch of government doesn't protect our consumer--that's for sure. By this I mean the decision to lift Canadian wheat import quotas.

Supposedly, endovan poses too many threats for use in our country, but then we open up the gate and allow wheat to come in through the border because millers were saying that bread was going up to a dollar a loaf.

The lifting of quotas has resulted in millions of bushels of imported wheat, some of which was treated by endovan while grown in Canada, being able to reach our American Consumers.

So now we have the American consumer eating flour produced from wheat that has been treated with endovan. As you know, you can only have it one way or the other. If we are going to protect the consumer from so-called dangerous pesticides--then lets stop food products produced in other countries that contain residue levels of these dangerous chemicals from reaching our nation's consumers.

If we don't have a strong enough case to do that, then maybe we ought to take a look at how we can expedite clearance of these new chemicals so that farmers and agricultural operators have the ability to produce food more efficiently and cheaper.

Our bureaucratic red tape discouraging us from using endovan for another three to four years will result in farmers seeing a large part of their crops destroyed by wild oats.

This is not the only example. My own experience in attempting to clear other pesticides has been equally frustrating. Although data have existed for one type of grain or one form of product, EPA officials maintain this data can't be used on similar grains because of varying residues levels.

Toxaphene is a good example of this problem.

Toxaphene is a relatively safe chemical. Certainly safer than some of the others that are used. Toxaphene has been cleared on food corn, which is about as direct from the field to the consumer as you can get.

But toxaphene has never been cleared for use on sunflowers. And as you know, sunflowers go through a long process whereby they are squeezed into oil. Finally, this sunflower oil reaches the ultimate consumer but by a much longer process than corn. Certainly, if the chemical is safe on cannery corn, it ought to be safe on sunflowers.

The answer we receive from manufacturers is that they do not apply for the registration of toxaphene on sunflowers because it costs too much to produce the data on sunflowers when compared with company profits accruing from the use of toxaphene on minor crops such as sunflowers.

Now, if we are going to be able to protect our environment and encourage farmers to use safer chemicals, we have to have some method that will result in the registration of chemicals on minor crops that have already been tested and cleared for major crops. What can be done to eliminate the enormous expense and capital needed by industry to register pesticides?

Maybe a system whereby government paid for the laboratory and data gathering costs and industry in turn rebated to the government a certain percentage of the product marketed is a feasible solution.

Not only would this result in uniformity ot testing and laboratory procedures, but it would also lead to increased availability of chemicals for minor crops--crops that industry now doesn't spend time on due to the lack of potential profit to be gained subsequent to registration.

In addition, substitute pesticides that have been cleared to take the place of pesticides that have been banned could be thoroughly studied and analyzed so that minimal adverse environmental impact occurs. For example, the substitute for banned DDT is parathion--a chemical that not only kills insects, but also the birds, rabbits, and other wild game. The result in many cases is that we are forced to rely on more damaging pesticides than need be.

More effective pesticides for major crops are also needed. Using endovan as an example again, industry estimated that it would take $1 million to $3 million to develop the necessary data for performance, residues, toxicology and effects on the environment. With such huge investments of capital needed to register, Congress should start considering ways to help finance clearing of new pesticides.

I would be most interested in your comments on a government rebate system on registration of pesticides. If we can encourage development by making registration easier, faster, and cheaper, we have probably served the taxpayers and consumers far better.

No matter what type of decision is made, one thing is clear: We must expedite our registration process, expand the data base and consolidate data used on similar plant species so that industry can develop new effective pesticides. Otherwise, we will have situations like we had in North Dakota where toxaphene was given an emergency clearance for control of thistle caterpillars on sunflowers. After the thistle caterpillers were taken care of, sunflower beetles began causing problems in sunflowers.

Since toxaphene wasn't cleared for sunflower beetles, sunflower farmers were placed in a dilemma. But lo and behold, someone told these farmers that if you find a thistle caterpillar in your fields, you can legally use toxaphene again. And then, perhaps by some accident, the sunflower beetles would incidentally be killed in the process of killing that one thistle caterpillar.

Other reasons why we must expedite this labeling process deals directly with our food supply. Because of rising food prices and decreased grain reserves, farmers are being asked to produce record food crops.

If farmers don't have the necessary pesticides to maintain an increased crop production, this goal can't be accomplished and no doubt unfair criticism will be directed at farmers for not providing huge supplies of food products for consumers.

However, it should be noted that an expeditious labeling procedure resulting in an increased food supply also has a direct benefit on this country's international problems.

Let's look for a minute at farm exports and their favorable result in the balance of trade. Last year $19 billion of farm exports bailed this nation out of a balance of payments.

Everybody knows about the energy crisis. Everybody knows what happened to the price of gasoline and the availability and the price of fuel oil.

Everybody should know that when they increased the price of crude landed on our coasts, they created a whale of an impact on our balance of payments problem. I think people ought to take a look at the unique bonus agriculture gave. Our agricultural exports increased last year by nine and three-tenths billion dollars. This more than offset the $7.5 billion deficit by trade in non-agricultural products--things like foreign cars, televisions and everything else we import from abroad to maintain our high standard of living.

In talking about agriculture, you are not just talking about the five percent of the Nation that are farmers. You are talking about the ability to bring in the fuel that means jobs and industry, that means maintaining the petrochemical industry we have built up, and that means giving us our high standard of living in America.

This matter is far too important to just deal with casually. For the first time since 1970 the U.S. has had a favorable balance of trade. I think we have to recognize that food can win a whale of a lot more friends for this nation than all the atomic weaponry and other government junkets that have occurred in this country.

I found this out ten or eleven years ago in Latin America.

You remember the news headlines at that time. They were pitching rotten eggs and all kinds of vegetables at Robert Kennedy. Latin Americans were even more hostile to Americans in the small towns where my wife and I were visiting.

But I soon found out that once it was learned that I was a farmer, the leaders of the various villages and towns gave us the red carpet treatment.

Why were they our friends? Because they respected our country's agricultural productivity.

I think it is time all of us realize that the God-given ability to produce food is the key to better understanding in a smaller and more complex world in which we live. Agriculture not only benefits consumers, but also our country's stature in this world.

Historians are now starting to write that the need for food by the North Vietnamese and Russians and our wheat sales abroad helped greatly in bringing an end to that confrontation.

It can also be argued that our food and fiber contributed to the cease fire obtained between Syria and Israel.

When problems developed over two weeks ago, who flew to Syria but Gromyko?

Why?

Because the Russians still need food for their consumers. In my opinion, it was for this reason that Gromyko went to Syria to help Secretary Kissinger bring an end to the fighting. And now we have the first agreement between Syria and Israel since they became countries.

Because of the unique contribution made by agriculture we must do everything we possibly can to see that more effective and safer chemicals reach our farmers.

In my remarks today, I have focused primarily on the problems we all face in the registration and labeling of pesticides. The delays, expense and lack of communication are but a few.

However, it is the solution to these problems that is the tougher job.

And it is my hope that the sessions you had yesterday and are having today will go a long ways in providing the proper solutions.

This is not an easy area. The technical problems are many.

But you must continue to strive toward the goal that results in pesticides being available to effectively kill off disease and harmful insects so food production is increased, while at the same time guaranteeing a strong and healthy environment in which we live.

THE HONORABLE RUSSELL E. TRAIN
Administrator
Environmental Protection Agency

It has been said that a miracle product is anything that will do what its label says it will do. I think that you will agree with me that this somewhat jaundiced logic can be applied to pesticides and labeling as well.

We could not dispute the intentionally lethal effect that pesticides have on those pests for whom they were intended any more than we can dispute the harmful effects that they can have, when improperly used, on human health and the environment. This is why we have a Federal Environmental Pesticide Control Act, why this Act makes it unlawful for any person "to use any registered pesticide in a manner inconsistent with its labeling" and why we have invited all of you to this symposium. It is primarily -- sometimes only -- through the label that the consumer learns how to use a pesticide properly and how to avoid its potential hazards. How effectively a label gets those messages across can mean the difference between life and death. It is the pesticide label that is the cornerstone of EPA's regulatory process.

Today I am going to cover briefly three areas of primary concern to us all: regulations and the necessity for them; communication and why it is needed; and finally, the need for cooperation among all concerned.

At the time the 1972 Amendments to the Federal Insecticide Fungicide, and Rodenticide Act were written, the House Agriculture Committee was in agreement that there was a very real need to strengthen regulatory control over both the use and users of pesticides. This included speeding up the procedures for the barring of pesticides found to be undesirable. It meant streamlining the methods by which new means of pest control and new methods developed become broadly available. It also meant strengthening the enforcement mechanism to protect against misuse of any biologically effective materials. Finally, it meant creating a framework in which research could produce a more meaningful data base to insure the development of better ways to use existing pesticides, as well as to develop alternative materials and methods of pest control. As we move ahead with administration of the statute and gain experience with its implementation, I am confident that these broad purposes will be fulfilled.

I will not go into the various amendments that have been made to the law. I am sure that they have been under active discussion here and will probably receive more comments before everyone leaves. Permit me to say however, that the new regulations calling for the classification of chemicals, the certification of applicators, the registration of plants, and all the other changes, are geared to fulfilling the intent of Congress in this particular matter and providing for a safer environment.

EPA recognizes that pesticides have played an important role in the production of food and fiber not only for this country, but for the rest of the world. Pests will always be with us, and in order for man to survive, he must have suitable means of controlling the insects and weeds that continuously threaten his comfort, health, and livelihood. In accepting that fact, we have registered over 32,000 pesticide products. But at the same time, we realize that the benefits to man's health, welfare and comfort brought about by the use of chemical pesticides can be offset by the deleterious effects of their use.

I have been told that the domestic consumption of pesticides now amounts to almost one billion pounds of active ingredients a year. That to me is a rather awesome statistic, but it may very well be in keeping with current needs. And we concede that with these needs must go certain risks to the environment. For no matter how carefully one applies pesticides under the present circumstances, there is always the possibility of material going to where it should not go; the possibility that the material will enter our streams, rivers, and lakes; the possibility of damage to the living environment by many different routes.

We must also consider the human element -- the people who are engaged in the production, distribution and sale of pesticides, the people engaged in the application of these products, and the people working in the fields. And we must consider the general public which uses pesticides in its home environment.

The point that I am making is that we must balance the risks of using such products against their benefits. And in seeing that the balance is struck, it is the role of the Environmental Protection Agency to assess the facts and to act positively through the promulgation and enactment of rules and regulations.

It should be obvious that if these regulations are followed correctly, pesticides, while remaining effective, will not be as accessible to unconstrained use as they have been in the past. Accordingly, we can look forward with confidence to a reduction in the number of people injured because they either did not know what they were handling, or just did not respect what it was. Adherence to the regulations should also bring about a lessening of environmental damage. Securing these benefits justifies the complexities and difficulties of administration and compliance.

A few minutes ago I described the pesticide label as the cornerstone of EPA's regulatory process. I said this because, under the amendments to the law, anyone who uses a pesticide in a manner inconsistent with its label is in violation of the law.

This means that attention must be drawn to the piece of paper glued to the bag, the printed message on the lithographed drum or can, or whatever legal method is used by the manufacturer to provide the necessary information. This places responsibility on all concerned. More than ever before, the manufacturer must insure that he is providing all the information that is required. The seller must be sure that his information is up-to-date and available to the customer. But it is the last person in this chain, the user, for whom this information is of paramount importance. It is here that the buck stops.

If the users do not follow the instructions that are printed on the labels, they are running the risk of injury to themselves and others. I am sure you are familiar with the hazardous practices that can endanger others -- the user who thoughtlessly dumps unused portions of spray material down the drain, or stores it in an improper, unlabelled container.

We do not need scientific degrees or a vast storehouse of technical data to understand that improper use, storage or disposal of pesticides can lead to problems, some of which may be tragic when little children are involved.

We cannot guarantee against all risks, but we can act to reduce risks to acceptable levels. Communications play a vital role in this regard.

Project Safeguard was a good example of EPA efforts in this area. This was conceived as a pesticide safety program whose aims were to alert small-acreage farmers to the possible dangers of using pesticides of high toxicity as replacements for DDT, and to alert them also against misuse of these products by means of instruction in proper use. Fifteen states were included in the project. Communications cut across many lines, reaching from the Federal government to the various State governments, community groups and industry. To be sure, there were some difficulties with the program, but overall it was a very effective approach to the problem of getting pesticide safety information to the target audiences. With this encouraging experience, it is our intention to continue this type of approach in the future, and to expand its scope.

But as I stated earlier, the ultimate solution to the problem lies in the hands of the user, and it is at this level that education is most needed. This Agency can do just so much in fostering education. We can study and learn the best techniques for passing information along. But when the buck finally stops, no person sitting in Washington can prevent a little child from reaching for tragedy. The farmer, the homeowner, the parent, must all bear this responsibility. If you begin now to communicate effectively, you may lessen the number of times this tragedy is acted out, and our efforts will be justified.

This leads to the final area I would like to cover, and that is cooperation. The concept of this symposium is not unique. What may be unique, however, is the act of all the parties in attendance to establish what I feel is a necessary dialogue. All of us at one time or another have learned that if we had stopped long enough to discuss a heated issue calmly for a few minutes, we wouldn't have ended up with a black eye.

There have been many black eyes given and received over the issue of pesticides. Long before the Environmental Protection Agency became a reality, government and industry were finding their relationships less than cordial. Environmental groups reacted to the problems of the day, and the industry returned the fire. Now, for the first time, the Registration Division of the Office of Pesticide Programs is saying to all interested parties, "Something must be done to improve the pesticide label, its standards and its guidelines. Let's get together and see what can be achieved." My hope is that the dialogue established here will be as fruitful as the recent one between EPA and the Chevron Chemical Company over the issue of preventing accidental paraquat ingestion. Through mutual cooperation and effort, improved labeling, communications and possible formulation modifications were agreed upon to both parties' satisfaction and the general public's benefit.

It is a sign that an agency is maturing when it feels confident enough to discuss important issues in open forum. The report of the President's Science Advisory Committee -- Panel on Chemicals and Health -- last September recommended that regulatory agencies improve public understanding regarding decisions that they make, that the agencies make clear the content and importance of their actions, and that the "pros and cons" supporting regulatory decisions of public interest be made available. In other words, we should bring the public, and that includes all the various factions represented here, into the picture.

By virtue of your response to this symposium, I feel that we have made a positive beginning. Let us hope that a meaningful dialogue continues, and that some firm results are achieved. Digest what you have heard, let us know what you think, and let us get on with the job of working together to provide and protect our food and fiber. And, at the same time, let us work together to improve and protect our environment and our health.

Proceedings
# of the
First National Symposium
on
Pesticide Labeling

Part II: Questions and Answers

June 3-4, 1974

Sponsored By

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Part - II

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TIME FACTORS

1. Q. On Oct. 21, 1974 when the EPA takes over the regulation of intrastate pesticides, how much time will be allowed to clear retail shelves of products not registered with EPA? Will a manufacturer be penalized if a product he sells in his own state on Sept. 30th is found in stores on Oct. 22nd of 1974, or say six months later?

A. EPA has not determined as yet how long a time period will be allowed to clear retail shelves of intrastate pesticides which have come within the Agency's jurisdiction. The second part cannot be answered without the first.

2. Q. Attention has been directed to the fact that there is an important need to expedite labeling...Making needed chemicals available to the consumer quickly after discovery. What plans does the EPA have for speeding up the labeling and registration process. (5)

A. We will utilize the product manager as a key person in expediting label review. The new reorganization plan will also make work flow more smoothly through the Registration Division.

3. Q. Why does it take ninety days or more for the EPA to answer a letter. (6)

A. I am sure that the figure of ninety days is not an average response time. Many letters are answered within one week of the time they are received. Letters dealing with decision making in problem areas often require more time to answer.

ADVERTISING; BROCHURES

1. Q. Does the new law prevent an advertiser from pointing out that one pesticide is safer to use than another; that is, less toxic to humans and the environment?

A. Such safety comparative claims are not acceptable since they detract from precautionary labeling.

2. Q. Will submitted advertising literature (labeling) be stamped approved and returned by the same method used in the EPA registered labels? Have you or will you standardize the enforcement fines - will this be published?

A. EPA has prepared interim guidelines for assessing civil penalties that the Regional offices should follow. This schedule would have the regional offices base their assessment of a civil penalty on gravity of violation, including a firm's history of violations, size of firm, and ability to stay in business. This schedule will be published in the Federal Register in the near future.

REGISTRATION AND ESTABLISHMENT NUMBER

1. Q. Should additional labeling material, i.e., a direction booklet which is registered carry the EPA registration number? What about carrying the establishment number?

A. Additional labeling material is not required to bear the establishment registration number. The establishment registration number is required to appear only on the label or immediate container of the pesticide.

2. Q. By law, must the EPA registration number and the EPA establishment number appear on a trade journal advertisement?

A. The establishment registration number is not required to appear in trade journal advertisements. It need appear only on the label or immediate container of the pesticide.

3. Q. The addition of the registration establishment number creates label control problems not the least being extra expense... What purpose will it serve? Does the establishment number have to appear on the immediate container label?

A. The purpose of the establishment registration number is to enable the Agency to determine the most recent producer of any given pesticide. This precise identification will also prove beneficial to producers in the course of EPA enforcement actions. For example, recalls required for grossly contaminated or deficient products can readily be pinpointed to a particular establishment rather than an entire company. The product registration number does not provide this identification. The establishment number must appear either on the label or the immediate container.

4. Q. Does the EPA establishment number have to appear parallel as does the EPA registration number?

A. The establishment registration number is not required to be parallel to other statements on the label. The only requirement is that this number of of a type size large enough to be legible.

5. Q. A pesticide is formulated by a company in Chicago and shipped to California in bulk for packaging by a second company in Calif. Should both EPA establishment numbers occur on the container?

A. When the pesticide formulated by a plant in Chicago is shipped to California in bulk it must bear the Chicago Establishment Registration number. After it is packaged in California, it should bear the California establishment number. The Chicago number does not apply to the formulated product.

6. Q. A comment on one of D. Campt's slides... "The establishment number is that of the producer" is somewhat misleading, unless the "producer" is construed to include the repackager.

A. The question reflects an understanding of the definition of "producer." It is true that a repackager is considered a producer for purpose of Section 7. The statement on the slide could be misleading to an audience unfamiliar with the section.

7. Q. The EPA establishment number has 17 digits. I don't know of any 17 digit coding equipment. What is the industry to do? How can they maintain plant manufacturing flexibility which is needed during the energy crisis?

A. The Agency has provided that a company may request special approval of a variation of the format for displaying the establishment number. The Agency has already granted approval on several formats which have reduced the length of the number by as many as six characters. It is acceptable for a number to be printed without the spaces & hyphens between the letters and digits to accomplish a reduction in size.

8. Q. As a retailer of pesticides we were required to register and get an establishment number. We register, but do not produce pesticides. What do we do with this number?

A. A pesticide retailer should not be registered as a producer if he does not perform any of the activities which are considered "production" e.g., manufacturing, preparing, processing or repackaging. If this retailer has registered, he should contact his EPA Regional Office and request that his establishment number be terminated. The Regional office would need to verify that his establishment did not need to be registered.

9. Q. Why is the EPA establishment number needed when the registration number already indicates the manufacturer?

A. The product registration number does not, in many cases, correspond to the actual producer of any given producer. The product registration number designates the registrant while the establishment number identifies the producer.

10. Q. In October, the 17 digit EPA establishment number must be on the container. What are contract fillers to do as there are no coders manufactured over 10 digits? The 17 digits include the spaces required.

A. If a coder cannot print more than 10 digits, an alternate method of affixing the establishment number must be used. Such alternatives are, inter alia, the use of a sticker label or pressurized labels. See number 10.

11. Q. Will the necessity for a firm to obtain an EPA establishment number also automatically require an EPA product registration number?

A. No. A firm may be producing without holding product registration.

CLASSIFICATION

All questions asked within this area are unanswerable at this time.

LEGAL QUESTIONS

1. Q. What is a minor violation?

A. Minor violations are those violations of a lesser consideration where the Administrator has decided that criminal or civil proceedings are not necessary to protect the public interest. Corrective action can be achieved through correspondence with the firm. Examples of minor violations are precautionary statements not prominently placed upon a label, misspelling or typographical errors or small deficiencies which are not likely to affect the product's effectiveness.

2. Q. Is it illegal to use a pesticide at a lower rate than specified on the label?

A. It is illegal to use a pesticide in any manner which is inconsistent with the labeling such as, at a lower rate than that specified on the labeling. Discretion remains with EPA to determine the severity of the violation and whether it merits assessment of a penalty. The Agency will decide each matter on a case-by-case basis allowing the rule of reason to apply.

3. Q. Is it illegal to kill insects or diseases not specified on the label and if so, how does one avoid doing this?

A. It would not be illegal to kill insects or diseases which are not specified on the labeling (non-target organisms) if the product is being used in accordance with the directions on the label. It would be illegal to kill insects or diseases which are not specified on the labeling if the product was being used specifically against these insects or diseases. Care in selecting the pesticide to be used and in deciding the time to spray may help avoid indiscriminate killing.

4. Q. Is it illegal to use less applications and/or lower intervals (i.e., longer intervals than specified on the label)?

A. It is illegal to use a pesticide in any manner which is inconsistent with the labeling such as, at a lower rate than that specified on the labeling. Discretion remains with EPA to determine the severity of the violation and whether it merits assessment of a penalty. The Agency will decide each matter on a case-by-case basis allowing the rule of reason to apply.

5. Q. If the labeling of a pesticide applied to a crop prohibits feeding any part of the treated crop to livestock, and the pesticide user sells the treated crop as food to a second party, who then converts the crop to livestock feed use, is either the pesticide user or the crop buyer in violation of section 12(a)(2)(G) of FIFRA?

A. The pesticide user violates the Act and, depending on his knowledge, the crop buyer could be in violation of Section 12(a)(2)(G).

6. Q. Is it illegal to use a pesticide at a dosage lower or higher different than that on the label?

A. It is illegal to use a pesticide in any manner which is inconsistent with the labeling such as, at a lower rate than that specified on the labeling. Discretion remains with EPA to determine the severity of the violation and whether it merits assessment of a penalty. The Agency will decide each matter on a case-by-case basis allowing the rule of reason to apply.

7. Q. Is use of a pesticide at a rate lower than is given on the label a misuse or inconsistent with the label?

A. Use of a pesticide at a rate lower than that given on the label is use inconsistent with the label which would be misuse of the pesticide.

8. Q. The purpose of a label was stated as "not to cause undue contamination of the environment." Will FEPCA allow usage below the labeled dosage?

A. FIFRA, as amended, will allow use of pesticides only at that rate which is stated on the registered label. Use at a dosage below that on the label may necessitate additional applications which would not have been necessary had label directions been followed.

9. Q. Integrated control employs the use of insecticides at less than the recommended dosages. Programs are already in practice in several cases. Is this misuse?

A. It is illegal to use a pesticide in any manner which is inconsistent with the labeling such as, at a lower rate than that specified on the labeling. Discretion remains with EPA to determine the severity of the violation and whether it merits assessment of a penalty. The Agency will decide each matter on a case-by-case basis allowing the rule of reason to apply.

10. Q. What does "release for shipment" mean? This pertains to (1) in inspection procedures, and (2) need for registration of establishment numbers.

A. Released for shipment pertains to a condition whereupon a batch or a lot of pesticides are packaged, labeled and have been placed in an area of the establishment apart from the manufacturing area, if there be one, for distribution or sale.

11. Q. What is the status of the books and records guidelines?

A. The "Books and Records" regulations are presently undergoing interagency review and are expected to be published a short time after the start of FY 75.

12. Q. The law states that the label on the container should not be substantially different from that registered by EPA. What is meant by "substantially different"?

A. The term "substantially different" means any deviation from the registered label which may cause unreasonable adverse effects on the environment or harm to the user or nontarget organisms including: lesser product effectiveness, illegal residues, phytotoxicity, and so on.

13. Q. How do you propose to get uniformity of enforcement between regions?

A. Uniformity between the regions has been achieved by the issuance of internal program direction and strategy from headquarters as well as such guidance as found in the Inspectors' and the Case Proceedings Manuals. In addition the Agency will be issuing Rules of Practice Governing Civil Penalty Assessments and an Assessment Schedule which will lay out the rules used by the Regional Offices to assess civil penalties and conduct hearings.

14. Q. It was stated that "recall is not specific sanction of the law." Is the recall mechanism; What are the criteria?, the procedures?

A. There is no explicit "recall" authority given to EPA through the FIFRA, however EPA can back up its voluntary recall requests with its stop sale and seizure authority (Section 13 of the Act). In connection with suspension and/or cancellation of a pesticide or finding of a gross violation of the Act, EPA may request that the registrant recall the problem product from the market. EPA will then contact the registrant to determine whether he intends to recall and to provide the procedures to be followed for a recall. EPA regional personnel supervise and monitor the recall until its completion. The initial decision that a product should be withdrawn from the market will be based on the information contained in the product's file, including sample analysis reports, Office of Pesticides Programs staff evaluation and other information that may be relevant. Recalls will be initiated in all cases where the available information indicates that the product is potentially hazardous when used as directed or ineffective for the purposes claimed.

15. Q. What if county agents or other officials recommend a chemical for a use not appearing on the company label. Can the establishment sell it to the customer requesting it?

A. An establishment which sells a pesticide for a use which does not appear on the label of that pesticide may be in violation of Section of the Act. In addition, the county agent who recommends such use may be in violation of State law.

16. Q. Could you please characterize the types of violations being found under the "civil penalties" program?

A. The types of violation being found under the civil penalties program are the same as those which have historically been found, that is, non-registration, misbranding, adulteration, as well as some new violations such as use inconsistent with labeling.

17. Q. As the regions are being given enforcement responsibilities, will enforcement policies be uniform between regions? What control over the regions will the Federal office have?

A. Uniformity between the regions has been achieved by the issuance of internal program direction and strategy from headquarters as well as such guidance as found in the Inspectors' and the Case Proceedings Manuals. In addition the Agency will be issuing Rules of Practice Governing Civil Penalty Assessments and an Assessment Schedule which will lay out the rules used by the Regional Offices to assess civil penalties and conduct hearings.

18. Q. What is the attitude of the EPA relative to using less than the amount of a pesticide specified on the label, i.e., using 1 lb./100 gallons rather than 1.5 lb./100 gallons?

A. It is illegal to use a pesticide in any manner which is inconsistent with the labeling such as, at a lower rate than that specified on the labeling. Discretion remains with EPA to determine the severity of the violation and whether it merits assessment of a penalty. The Agency will decide each matter on a case-by-case basis allowing the rule of reason to apply.

19. Q. What if the company has a registered label and farms it out for filling (Ex. - aerosol cans) - it could be filled by different companies in different areas. What establishment number is put on the printed label?

A. Each filler is considered a producing establishmnet and therefore must put its own establishment number on those products which it fills. This is an example of the case where the product registration number will be different from the establishment registration number.

20. Q. When the registered company sends chemicals in bulk for packaging (Ex. - aerosols), what establishment number on the can?

A. Bulk chemicals must bear the establishment number of the bulk producer when shipped to the packager. After packaging by the second company, the container must bear the establishment number assigned to the packager. The bulk producer's establishment number no longer applies.

21. Q. Why should violations be cited for misbranding when small quantities of a similar pesticide are contained in the same product, i.e., a product of 5% sevin cross-contaminated with .005% malathion?

A. A product is misbranded if another pesticide which is not noted on the label, is found in the product. Undeclared active ingredients can result in illegal residues and danger to human health and the environment. The Act requires the Agency to notify violators of the law, however, the Administrator may issue warnings for minor violations rather than proceed with a civil or criminal action.

22. Q. It was stated that the 1974 fiscal objective for enforcement was to issue approx. 1500 notices of violation, issue an estimated 200 stop sale, use and removal orders: and initiate approx. 500 civil and criminal actions. This is a quota system. Why run an enforcement program on this basis?

A. The FY 74 pesticide enforcement objectives did not constitute an Agency quota system but were part of an overall Management By Objectives system. Based on past history, and given a certain number of establishment inspections, use investigations, experimental permit monitoring, retail market surveillance and so on, each region stated that they expected to uncover an approximate number of violations which would lead to stop sales, civil and criminal actions, etc. These figures, number of stop sales, civil/criminal actions, import detentions, were therefore not objectives in the sense of quotas which the regions committed to and were held to by headquarters, but were instead, expected accomplishments. The Pesticides Enforcement program is based on having certain objectives which the regions commit to accomplishing such as establishment inspections, product samples, use surveillance, and from which a number of violations will most likely arise. These violations will then be prosecuted according to criteria as set forth by the Agency.

23. Q. How are you handling the inspection of registered producer-establishment not located in the United States?

A. At this point in time the Agency has no plans to inspect foreign (non-U.S.) pesticide producing establishments. However, we reserve the right to inspect such establishments at a later date.

24. Q. A label must be changed by reason of an EPA review, and/or recent regulations - What is the grace period permitted on old packages, inventory, labels, etc., before they must be disposed of?

A. EPA is in the process of developing new regulations for implementing Section 3 of the Act and this question may be answered by those regulations. At the present time a pesticide can be shipped only under the currently registered label.

25. Q. Does any statute prohibit the manufacture of a pesticide while registration is still pending?

A. Yes.

26. Q. In recent years, FDA has entered cooperative agreement with State regulatory agencies in order to utilize the inspection resources of such agencies. Does the EPA anticipate similar agreements?

A. EPA has entered into cooperative enforcement agreements with 5 states to date. In these agreements the States will be supplementing EPA in the areas of marketplace and use surveillance, as well as the collection and analysis of pesticide samples. EPA hopes to enter into cooperative agreements with all States.

27. Q. Please review the methods of objection by the enforcement agency with regards to: civil action, criminal action, and fines. Also, what is the recourse open to the manufacturer?

A. Under section 14(a) of the Act, the Agency is empowered to assess a civil penalty in the event of violations of any provision of the Act. In accordance with the interim Rules of Practice governing this section, published September 20, 1973 (38 F.R. 26345), a manufacturer who receives a civil complaint proposing to assess a civil penalty under section 14(a)(2) is entitled at his discretion to request a public hearing or to engage in settlement discussion with the Agency. In the event a criminal action is pursued under section 14(b), the defendant-manufacturer has recourse to remedies in a court of law.

28. Q. Can herbicides be used at a rate lower than those stated on the label under certain conditions (climatic such as high temperatures)?

A. It is illegal to use a pesticide in any manner which is inconsistent with the labeling such as, at a lower rate than that specified on the labeling. Discretion remains with EPA to determine the severity of the violation and whether it merits assessment of a penalty. The Agency will decide each matter on a case-by-case basis allowing the rule of reason to apply.

29. Q. Is EPA going to issue guidelines or regulations defining what is meant by "use inconsistent with the label"? If EPA is not going to do this, how will users know whether a particular deviation from the label is legal or illegal?

A. EPA has stated publicly what its position is with regards "use inconsistent with the label" and that is, such use is illegal. EPA does not intend to publish regulations or guidelines defining this, however, the question may be addressed in various enforcement pamphlets which are being prepared. Pesticide users should be aware however that any deviation from the labeling directions will be considered a violation of the Act.

30. Q. What is the legal meaning for "release for shipment"? Does it include intrastate transfers from the plant to remote warehouses?

A. Pesticides which are ready for movement from a manufacturing plant to a remote warehouse would be considered "released for shipment."

31. Q. If "produce" means propagate or distribute, wouldn't warehouses have to be registered as "producing establishments"?

A. No. Warehouses, in the narrow sense of the word, are not considered producing establishments.

32. Q. If a pesticide is produced at a registered establishment for export only, is it necessary to have the product registered?

A. No. Pesticides intended solely for export are required only to meet the specifications or directions of the foreign purchaser. The exported product is not required to be registered although the establishment in which it is produced must be registered.

33. Q. What is the acceptable manufacturing tolerance (%) for deviation form the label declaration of active ingredients?

A. Any deviation from the label declaration of active ingredients found in a formulated product could be considered, at the very least, a minor violation. The amount of deficiency or overage, the degree of hazard, and the affect on the product's effectiveness, all enter into the decision process as to how serious the deviation is.

34. Q. Is any deficiency regardless of how small, considered a violation?

A. Yes. However very small violations may not result in penalties.

35. Q. Section 9(c)(3) permits the use of warning for minor violations in lieu of instituting proceedings for prosecution ... if public interest can be best served. Does the same apply, i.e., under section 14(a) for assessment of civil penalties?

A. Under the Act, there are numerous actions which are authorized to be pursued in response to violations, including criminal and civil penalties under section 14, cancellation and/or suspension under section 6, and notices of warning under section 9(c)(3). In the event a violation is deemed to be so minor as not to warrant criminal or civil action under section 14, a section 9(c)(3) warning citation may be issued.

36. Q. Are State and Federal sample analysis programs to be coordinated or will both be working independently?

A. EPA has entered into cooperative enforcement agreements with 5 states to date. In these agreements the States will be supplementing EPA in the areas of marketplace and use surveillance, as well as the collection and analysis of pesticide samples. EPA hopes to enter into cooperative agreements with all States.

37. Q. In the past nine months there has been an increase in plant inspections, enforcement actions, increased requests for data designed to help the enforcement of FIFRA. Does the pesticides enforcement division have a plan for detailed education of the manufacturers?

A. EPA will be publishing various pamphlets which should serve to educate the public (including pesticides producers) as to the role of enforcement in regards to the FIFRA. In addition EPA inspectors in the course of conducting establishment inspections have been instructed to discuss the new amendments to the Act and to distribute copies of the Act, regulations and any other relevant information. This along with the publicity that EPA gets when an enforcement action is taken has helped to educate the pesticide producers.

38. Q. How many times has section 12 of FEPCA been used to prosecute parties who have misused a pesticide?

A. At the end of fiscal 1974, it was estimated there had been no more than ten actions brought under section 12(a)(2)(G) of the Act for use inconsistent with label directions.

REGISTRATION PROCEDURES

1. Q. EPA personnel enjoy using the phrase "unreasonable adverse effects to the environment." Please define. Why use such an undefined phrase in a basic explanation of EPA policy or requirements?

A. The term "unreasonable adverse effects" is defined under section 2(bb) of the Federal Insecticide, Fungicide, and Rodenticide Act as "Any unreasonable risk to man or the environment, taking into account the economic, social, and environmental costs and benefits of the use of any pesticide."

2. Q. What is the environmental protection benefit of using the minimum dosage specified by labeling for a pesticide, instead of using an even lower dosage which the user knows is adequate for his crop protection purposes?

A. Dosages submitted to the EPA for registration of specific pests are backed up by objective data. If lower dosages will do an effective job then data supporting this should be submitted for our review.

3. Q. Is it permissible to include both "pounds and kilograms" on the same label? Would it be permissible to go exclusively to the metric system on the label?

A. At this point and time it would not be permissible to use the metric exclusively on the label. In developing the Section 3 regulations, consideration is being given to whether or not we are prepared to, at this time, permit the use of both systems of measurement on the labeling. A phase-in program will probably be the method if we go to the metric system. The Section 3 regulations will speak more clearly on this issue.

4. Q. Which federal agency has jurisdiction when a product has an EPA registration number but is considered a drug by the FDA?

A. The FDA and the EPA have published in the Federal Register an Interagency agreement concerning areas of mutual responsibility relating to products that are pesticides and drugs. This agreement lists products that are considered primarily a drug and those considered primarily a pesticide. Those products considered primarily a drug would be handled by FDA and those considered primarily a pesticide would be handled by EPA, however, in no case would either agency accept a product unless and until the other Agency has informed it that the product is in compliance with the laws administered by that Agency.

5. Q. Is it feasible to have the same person handle all dealings on any particular application as a means of establishing better communications?

A. Yes, the product manager will function along this line of reasoning. However, it is impossible for one person to do everything.

6. Q. Several observations and comments have been made regarding labeling of devices. I understand EPA does not register devices, however. How then does EPA handle labeling of devices? How is misbranding and illegal use of devices determined?

A. Under Section 25(c)(4) of the Act the Administrator by regulation may specify by regulation which classes of devices shall be subject to the provisions of section 2(q)(1) of the Act with regard to misbranding and to section 7 requiring registration of establishments producing such devices. As of this time no regulations pursuant to Section 25(c)(4) have been issued.

7. Q. Why is no speaker nominated from insecticide formulators?

A. Due to time limitations, we felt that one speaker representing a specific area of expertise would be sufficient or in some cases one person speaking for many disciplines. We know that this meeting could not and did not represent each and every person who would have liked to have been heard, however regional meeting will accomplish many things not accomplished here.

8. Q. What may a producer do to modify EPA thinking regarding labeling found to be inadequate through field or practical experience to avoid possible misuse or excessive hazard?

A. Should a producer determine that current directions for use reflected in his accepted labeling may be insufficient to avoid misuse or hazard, it is incumbent upon him to bring that matter to the Agency's attention. He should seek expeditious review of labeling revisions designed to ameliorate possible hazards or misuse.

9. Q. Does the label have to state "For aerial application"? Do all pest and hosts for which a material will be used have to appear on the label and/or labeling?

A. A label must bear directions for aerial application if that mode of application is to be used. If a pest being controlled by chemical Z is not on a label for chemical z then the applicator is misusing the pesticide.

10. Q. A pesticide is approved for use on Plant "A" for control of Pest "X", but not for Pest "Y" even though it will control pest "Y" (possibly even better than Pest "X"). What is EPA's attitude toward use of the pesticide to control Pest "X" from the standpoint of food plants, ornamental plants, commercial operations, and home owner?

A. It is illegal to use a pesticide in any manner which is inconsistent with the labeling such as, at a lower rate than that specified on the labeling. Discretion remains with EPA to determine the severity of the violation and whether it merits assessment of a penalty. The Agency will decide each matter on a case-by-case basis allowing the rule of reason to apply.

11. Q. Have you heard of the study which determined that children seem attracted to the skull and crossbones on labels because of its remainder of pirates? I heard of this from a public relations firm.

A. No, we have not. If you know of such studies please submit them to the new Standards and Labeling Section in the Registration Division.

12. Q. How do I determine whether to apply to USDA for approval of a product versus applying to EPA for a registration number?

A. The EPA has taken over all pesticide registration functions from the USDA per Presidential Order which created us into an Agency on December 2, 1970. The USDA no longer registers pesticides.

13. Q. Can labels be printed and used with changes... such as company name change, brand name change, and layout of label as long as no other changes are made? These labels would be sent to EPA on the amended form.

A. Any changes in your label and/or labeling must be approved by the EPA before entering it can be used in interstate commerce.

14. Q. What new regulations might we see in the next few years governing the disposal of pesticide containers?

A. Recommended procedures for disposal and storage of pesticides and containers have been published pursuant to section 19(a) of the Act (39 F.R. 15236). These procedures will be modified and updated as circumstances dictate. It is anticipated that label revisions will be required of certain products to reflect disposal procedures pursuant to registration requirements.

15. Q. If the active ingredient is produced at one location and the formulated product containing that active ingredient is preferred at another location, which location is the pesticide establishment?

A. Both locations are producing establishments. The active ingredient must bear the establishment number of the ingredient producer when shipped to be formulator. After formulation, the product will bear the establishment number assigned to the site of formulation.

16. Q. You suggest that insects (and other pests) be grouped together to simplify labeling. Would you include Green Bugs under aphids? Would you also include green peach aphids under aphids?

A. Unless a pesticide is effective against all the aphids known to be pests on a particular crop, separate listings of the individual aphids would be required. This would include green peach aphids.

17. Q. Can mites (either as a group or specific species) be claimed as a pest on livestock and the product sold for mange control?

A. Mites can be claimed as pests on livestock and the product sold for mange control if in fact the data support the claim.

18. Q. I would like to receive clarification on current status of pesticide registration as it relates to use in eating establishments. How does the crack and crevice policy relate to this?

A. A statement of policy with respect to use of insecticides in food handling establishments was published in the Federal Register on August 10, 1973 (38 F.R. 21685). Use of residual pesticides for treatment of cranks and crevices in food handling establishments in addition to uses authorized on the labels of such products was permitted with respect to a discrete list of sixteen products. Such use was conditional on immediate application for registration of such product and registration within six months of the notice date, or no later than February 2, 1974.

19. Q. If a material is registered and the label states "ornamentals including..." is the material limited to those hosts named?

A. It is limited to ornamentals of the type illustrated by these named.

20. Q. On the net contents statement, what are the accepted limits above and below the stated net?

A. There are no acceptable limits above or below the stated net weight.

21. Q. The slide on label requirements indicated that the address of both the producer and the company produced are required -- is this correct?

A. Only one address is required on a label. An unqualified name and address given on the label is considered to be that of the manufacturer. If the registrants name appears on the label and the registrant is not the manufacturer, or if the name of the person for whom the pesticide was manufactured appears on the label, it must be qualified by appropriate wording, such as "packed for...", "distributed by...", or "sold by..." to show that the name is not that of the manufacturer.

22. Q. What if a company manufactures a chemical with wide usage. On his label, he claims only a few of them. A bid is taken for the chemical being manufactured, but the material will be used for some insect that does not appear on the registered label. Can he sell the material as long as it is the chemical requested?

A. The label registered must bear claims for all insects to be controlled at point of application.